



**THE EFFECT OF STIRRED WORDS AND SENTENCES GAME ON THE
STUDENTS' VOCABULARY MASTERY AT MAS PAB 2 HELVETIA IN
2017/2018 ACADEMIC YEAR**

THESIS

*Submitted to Faculty of Tarbiyah Science and Teacher Training UIN-SU
Medan as a Partial Fulfillment of the Requirements for the Degree of
Educational Bachelor S.1. Program*

By:

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FACULTY OF TARBIYAH SCIENCE AND TEACHER TRAINING
STATE ISLAMIC UNIVERSITY OF NORTH SUMATERA
MEDAN
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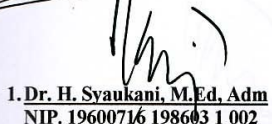
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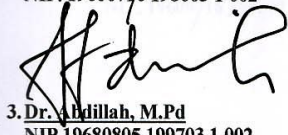
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Assalamualaikum Wr.Wb.

Setelah membaca, meneliti dan memberi saran-saran perbaikan seperlunya terhadap skripsi mahasiswi a.n. **Nuraida Afni** yang berjudul:

**THE EFFECT OF STIRRED WORDS AND SENTENCES GAME ON
THE STUDENTS' VOCABULARY MASTERY AT MAS PAB 2
HELVETIA IN 2017/2018 ACADEMIC YEAR**

Maka kami berpendapat bahwa skripsi ini sudah dapat diterima untuk melengkapi syarat-syarat untuk mencapai gelar Sarjana Pendidikan (S.Pd.) pada Fakultas Ilmu Tarbiyah dan Keguruan UIN Sumatera Utara Medan.

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Menyatakan dengan sebenarnya bahwa skripsi yang saya serahkan ini benar-benar merupakan hasil karya sendiri, kecuali kutipan-kutipan dari ringkasan-ringkasan yang semuanya telah saya jelaskan sumbernya. Apabila di kemudian hari terbukti atau dapat dibuktikan skripsi ini hasil jiplakan, maka gelar ijazah yang diberikan oleh Universitas batal saya terima.

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Yang Membuat Pernyataan



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ABSTRACT

NURaida AFNI, THE EFFECT OF STIRRED WORDS AND SENTENCES GAME ON THE STUDENTS' VOCABULARY MASTERY AT MAS PAB 2 HELVETIA IN ACADEMIC YEAR 2018/2019

Thesis, Medan: Department of English Education, Faculty of Tarbiyah and Teachers' Training, State Islamic University of North Sumatera, Medan 2018.

Keywords: Stirred Words and Sentences Game, Vocabulary, Mastery

The aim of this research is to find out the empirical evidence of the students' vocabulary mastery that are taught by using Stirred Words and Sentences Game, to know the students' vocabulary mastery that are taught by using conventional method and to find out whether there is a significant effect of Stirred Words and Sentences Game on the students' vocabulary mastery at tenth grade students of MAS PAB 2 Helvetia in 2017/2018 academic year.

The research methodology of this research is quantitative experimental research, which conducted the experimental and control class. The population of the research is the tenth grade students of MAS PAB 2 Helvetia, the number of students are 72 students consist of two classes. The experimental class (X-MIA) is 36 students and control class (X-IIS) is 36 students as sample with total are 72 students. The researcher gives 30 vocabulary questions to collect the data. There are two test; pre-test and post-test.

The formula that is used to analyze the data is t-test. The researcher finds that the mean of pre-test in experimental class is 59.39 and control class is 54.94. Mean of post-test in experimental class is 86.92 and control class is 67.69. It is found that $t_{\text{observation}}$ is 6.482, whereas the t_{table} is 1.994 for $\alpha = 0.05$ with the degree of freedom (df) 70. The $t_{\text{observation}}$ is higher than t_{table} ($6.482 > 1.994$), so null hypothesis (H_0) is rejected and alternative hypothesis (H_a) is accepted. It means that there is a significant effect of using Stirred Words and Sentences Game on the students' vocabulary mastery.

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The writer realizes that this thesis is far of the perfect. Therefore, somecritiques and suggestions are needed to make it better.Finally, might not be perfect in some parts. Therefore, I say sorry and expect some critics and suggestion to this thesis. I hope this thesis will be useful for the reader.

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CHAPTER I

INTRODUCTION

A. Background of Study

Language is one of the most important things in communication and it is as a tool to get information among people in all over the world. In other words, language is a tool used by people to communicate and express their idea.

As an international language, English is very important and having many relations with various aspects of life. It also has a role as a means to learn about science and technology in facing globalization era. Many sources of science using English as their language and many kinds of job also have a thick bound with English which many people depend on it to get more advantages in their daily needs. Those are the reasons why people should master English language. By mastering this language, people can gain information from every sources and the number of misunderstanding of communication with others can be reduced.

A study of language includes the five skills, namely reading, speaking, listening, writing, and translating. In order to master those skills, the students have to understand some elements of language, like grammar, pronunciation, vocabulary, and etc. One of the elements that have been taught to the learner is vocabulary.

Vocabulary is an important tool in learning a foreign language because it has a primary role for all language skills. It can be considered as the basic to be able to communicate well in foreign language. Therefore, vocabulary should be mastered by people. The importance of vocabulary is larger than other aspects because if people do not master vocabulary, they will get difficulties in speaking

fluently, learning grammar, reading, and writing.

Mastering vocabulary means that people know all the words in the language which they use. Whenever people think about language, they usually think about mastering vocabulary. It means that whenever people use language, automatically they use the words of the language. Therefore, it is crucial for people to have range of vocabulary. By having large of vocabulary, they can precisely open our ideas in communication. So, it is important to master all of vocabularies in language.

Unfortunately, students still encounter some problems in learning vocabulary. Based on the researcher's observation in MAS PAB 2 Helvetia, there are many problems that faced by the students. The first problem is in learning process of vocabulary. In learning vocabulary, the teacher should be more creative in creating a vocabulary learning method in order to make the teaching learning process become more fun. In fact, the teacher uses an inappropriate method in teaching vocabulary. Therefore, it makes the students feel boring in learning vocabulary. Then, the teacher only teaches vocabulary based on handbook. Moreover, the teacher always ask the students to find the meaning of a word in dictionary. But in fact, they are lazy to do that and most of them do not bring dictionary when learning English. Those all can make the students get difficulties in memorizing many vocabularies. The second problem comes from the students. For example, when the researcher gave some vocabularies questions, most of students just can answer 5 words among 20 words. It shows that the students is still lack of vocabulary because they do not know the meaning of them.

Based on the above fact, it is necessary and important for teacher who

concerns in teaching English to find out the effective method to make learning vocabulary easier and more interesting for students. So, the students will enjoy following English class.

However, to make English teaching effective and interesting is very difficult. The difficulty depends on the method which used by teacher in the classroom. The teacher should find the best or the effective method to teach English vocabulary. One of the beneficial method to improve students' vocabulary mastery is by using game. Game is one of many ways that appropriate in learning vocabulary. Using game in teaching is useful to make students enjoy and to enrich their spirit in learning process.

One of the game which is appropriate in learning vocabulary is word game. There are many word games that can improve vocabulary, such as scrabble, word chain, hangman, and so on. But, in this research, the researcher uses stirred words and sentences game in learning vocabulary.

Stirred words and sentences game is a word game in which the letters are stirred. The students should arrange the letters become a meaningful words and arrange the words become a meaningful sentences. This game can increase students' creativity in arranging the letters and words and can make the students think critically.

Based on the above explanation, the writer wants to conduct a research untitled: **“The Effect of Stirred Words and Sentences Game on The Students' Vocabulary Mastery”**.

B. Statement of the Problems

Based on the background, writer identifies the problems as follow :

1. The students feel boring in learning english.
2. The students get difficulties in memorizing vocabulary.
3. The students still lack of vocabulary.

C. Research Question

By conducting this research, the writer wants to investigate some problems which are formulated as follows:

1. Is there any significant effect of stirred words and sentences game on the students' vocabulary mastery of the tenth grade students in MAS PAB 2 Helvetia ?

D. Purpose of the Study

The purposes of the research will obtain empirical evidence as follows:

1. To find out whether there is any significant effect of stirred words and sentences game on the students' vocabulary mastery of the tenth grade students in MAS PAB 2 Helvetia.

E. Significances of Study

The result of this research is expected to have some advantages as follows:

1. Theoretically

The innovation of this research will enrich the theory of teaching English vocabulary and the result of the research can be used by English teacher to improve the students' vocabulary mastery.

2. Practically

- a. For Teacher

It is expected that the teacher can provides alternative teaching and

learning English in a fun way, in this case is game. Teacher will be more innovative in teaching process especially in vocabulary and make learning process more interesting by using Stirre Words and Sentences Game..

b. For Students

It is expected that the result can increase students' motivation to be better in vocabulary. Through games, students are expected to have good enrichment in vocabulary and also the changes of behavior during the teaching-learning process.

c. For Other Researcher

It is expected that this study can be used as an experience on how to conduct the similar research.

F. Limitations of Study

Based on the statement of the problems, it is necessary for the writer to limit the problem that focuses on the effect of stirred words and sentences game on the students' vocabulary mastery in MAS PAB 2 Helvetia.

CHAPTER II

LITERATURE REVIEW

A. Review of Literature

1. Vocabulary

a. Definition of Vocabulary

According to Crystal (1995: 119) Vocabulary is the “Everest of language”.¹ Wilkins assumed that “without grammar very little can be conveyed, without vocabulary nothing can be conveyed” (Thornbury, 2002: 13).² For this reason, a person who wants to be able to communicate in a certain language has to master the vocabulary of that language for the first time.

Vocabulary is a central part of a language. The more words students know well and can use, the more meaning they can communicate in a wide variety of circumstances (Coxhead: 2006).³ Moreover, Višnja (2008: 4) stated that vocabulary could be defined as a ‘dictionary’ or a set of words. This general view is reflected in the lexicographical approach to the traditional way of listing words in a dictionary.⁴

In the Oxford Learner’s Pocket dictionary (2008: 495) vocabulary is all the words that a person knows or uses, all the words in a language, list of words with their meaning especially in a book for learning a foreign language.⁵

¹David Crystal, (1995), *The Cambridge Encyclopedia of the English Language*, Cambridge: Cambridge University Press, p. 119.

²Scott Thornbury, (2002), *How to Teach Vocabulary*, Harlow: Longman Pearson Education Ltd, p. 13.

³Averil Coxhead, (2006), *Essentials of Teaching Academic Vocabulary*, New York: Houghton Mifflin Company, p. 1.

⁴Pavii Višnja Taka, (2008), *Vocabulary Learning Strategies and Foreign Language Acquisition*, UK: Multilingual Matters Ltd, p. 4.

⁵Victoria Bull, (2008), *Oxford Learner’s Pocket Dictionary*, New York: Oxford University Press, p. 495.

Furthermore, Webster dictionary (2003: 1400) has three definitions of vocabulary as follows: (a) a list or collection of words and phrases usually alphabetically arranged and explained or define; (b) a list or collection of terms or codes available for use; and (c) a sum or stock of word employed by a language group, individual or work or in a field knowledge.⁶

Allah SWT. says in verse Al-Baqarah: 31

وَعَلَّمَ آدَمَ الْأَسْمَاءَ كُلَّهَا ثُمَّ عَرَضَهُمْ عَلَى الْمَلَائِكَةِ فَقَالَ أَنْبِئُونِي بِأَسْمَاءِ هَؤُلَاءِ إِنْ كُنْتُمْ صَادِقِينَ (٣١)

The meaning :

*“And He taught Adam the names of all things; then He placed them before the angels. and said: "Tell Me the names of these if ye are right.”*⁷

In that verse, Allah SWT taught Adam some names of things on earth when Adam was sent to earth. In language instruction, the verse implies that vocabulary is very important to be introduced to the learners because it is the basic of the language knowledge. Without having vocabulary, it is impossible for learners to convey what they want to express. In reverse, if someone has acquired a broad of vocabulary, he or she tends to not consult with obstacles and lost in translation in comprehending grammar, listening, and reading. Moreover, he or she is able to speak and write more fluently.

From those definitions, it can be concluded that vocabulary is a part of language system that people used to communicate which consists of a large

⁶Anita Novriana, *“Improving Vocabulary Through Hangman Game To Elementary School Students”*, Journal, p. 110-119.

⁷Abdullah Yusuf Ali, (1997), *The Meaning of The Holy Qur'an*, USA: Amana Publications, p. 24.

collection of items. Vocabulary is knowledge of how the words fit into the world.

b. Kinds of Vocabulary

According to Harmer (1991: 150), there are two types of vocabulary; active and passive vocabulary. Active vocabulary is the stocks of words which have been taught by the teacher or learnt by the students and which are expected to be able to use. On the other hand, passive vocabulary is the words of which the students will recognize when they meet them, but of which they will probably not be able to pronounce.⁸

In addition, Nation (2001: 38) also divides vocabulary into two types:

1. Receptive vocabulary

Receptive vocabulary is words that learners recognize and understand when they are used in context, but which they cannot produce. It is vocabulary that learners recognize when they see or meet in reading text but do not use it in speaking and writing.

2. Productive vocabulary

Productive vocabulary is the words that the learners understand and can pronounce correctly and use constructively in speaking and writing. It involves what is needed for receptive vocabulary plus the ability to speak or write at the appropriate time. Therefore, productive vocabulary can be addressed as an active process, because the learners can produce the words to express their thoughts to others.⁹

Furthermore, Thornbury (2002: 3-10) says that there are six kinds of

⁸ *Op.Cit.*, p. 111

⁹ I.S.P Nation, (2001), *Learning Vocabulary in Another Language*, Cambridge: Cambridge University Press, p. 38.

vocabulary, they are:

1. Word classes

Words classes or parts of speech. They are divided into eight classes, such as: noun, pronoun, verb, adjective, adverb, preposition and determiner.

1) Nouns

Nouns are the names of person, thing or place. Noun can be the subject of the sentence, object of the verb and object of preposition. The example of nouns are Muhammad, table, Amerika and etc. There are types of noun as follow:

a. Countable noun

Countable noun can usually be made plural by the addition of -s.

b. Uncountable noun

Uncountable noun is a noun which does not have a plural form and this refers to something that could not count.

c. Proper noun

Proper noun is a noun that wrote with capital letter, since the noun represents the personal name, names of geographical units such as countries, cities, rivers, etc. the name of nationalities and religions, names of holidays, names of time units and words use for personifications. For example: *Father go to **Jakarta**, **Muhammad** is the last prophet.*

d. Common noun

Common noun is a noun referring to a person, place or thing in general sense: usually we should write it with capital letter when it

begins a sentence.

e. Concrete noun

Concrete noun refers to objects and substances, including people and animals, physical items that we can perceive through our senses, it means concrete nouns can be touched, felt, held, something visible, smelt taste, or be heard. For example: ***my family** spent their holidays in Bali. The **rice** was eaten by yunita.*

f. Abstract noun

Abstract noun is noun which names anything which can't perceive through physical sense. For example: Marsela has good health about her life.

g. Collective noun

Collective noun is noun which describes groups, organization, animals or person. For example: the committee of food ball meets every Monday.

h. Noun plural

Most of nouns change their form to indicate number by adding -s/ -es. For example: tomorrow, I want to buy two **books** on the shop.

2) Pronouns

Pronouns are words that are used to replace a person or thing. For example: I, you, we, they, he, she, it.

3) Verbs

Some examples of verb are like, looking, doing, etc.

4) Adjective

Adjective are words that are use to explain or modify a person, place, or thing, for example: old, beautiful, good, etc.

5) Adverbs

Adverbs are words that used to describe verb adjectives or adverbs, for example: beautifully, now, ago, etc.

6) Preposition

Prepositions are words that are uses with noun or pronoun that are placed in front of them to show a relation between these words with another part of the sentence. They are: at, on, in, from, into, etc.

7) Conjunctions

Conjunctions are words that are used to connect word on a group of words or sentences. Conjunctions are usually used in the adverbial clause, for example: as, if, because, for, others, and although.

8) Determiner

To make easier in learning about determiner, Thornbury divide them in to two groups they are: grammatical words or function words and content words. Grammatical words consist of preposition, conjunctions, determiners and pronouns, and belonged to the domain of grammar teaching. While content words are usually nouns, verb, adjectives and adverbs.

2. Word Families

It discusses about affixation of a word, such as: prefixes (pre-, de-) and suffixes (-er, -ful). Inflexions of play: play-plays-played and playing. Derivatives of play: play-player-replay and playful.

3. Word formation

Affixation is one of the ways new words are formed from old. Another ways are:

- 1) Compounding, that is the combining of two or more independent words (second-hand, word processor, paperback, typewriter and so on).
- 2) Blending, breakfast + lunch = brunch, information + entertainment = infotainment etc.
- 3) Conversion, I always television every information. (television is noun, and it is converted into verb).
- 4) Clipping, electronic mail = email; influenza = flu.

4. Multi-Word Units

- 1) Idioms: out of the blue, like a blue moon.
- 2) Phrasal verbs: look, for, look after, wipe off, and throw on etc.

5. Collocations

Two words are collocates if they occur together with more than chance frequency. Example: this week, once again, as well, once more.

6. Word meaning.

1) Synonym

Synonym is words that share a similar meaning. For example: sadness = unhappiness, find = good.

2) Antonym

Antonym is a word expressing an idea directly opposite to that of another word in the same language. For example: accept >< refuse,

like >< dislike

3) Homonyms

Homonyms are words that share the same form but have unrelated meanings, such as: shed, well, left, fair, bat etc.¹⁰

c. Principles of Teaching Vocabulary

Because of the importance of vocabulary, it needs a serious attention in learning vocabulary from both learners and teachers. It becomes a great challenging act for the teacher to teach vocabulary, what kind of method they use, what kind of vocabulary that they give, or how many vocabularies that they should teach. According to Scmitt (1997: 146), they are some key principles in teaching vocabulary:

1. Build a large sight vocabulary.
2. Integrate new words with old.
3. Provide a number of encounters with a word.
4. Promote a deep level of processing.
5. Facilitate imaging.
6. Make new words "real" by connecting them to the student's world in some way.
7. Use a variety of techniques.
8. Encourage independent learning strategies.¹¹

Furthermore, Nation and Moir identify three principles of vocabulary teaching: '*content and sequencing*', '*format and presentation*', and '*monitoring*'

¹⁰ Scott Thornbury, *Op.Cit.*, p. 3-10.

¹¹ Norbert Scmitt, (1997), *Vocabulary in Language Teaching*, Cambridge: Cambridge University Press, p. 146.

and assessment' of vocabulary. In term of '*content and sequencing*', learners' attention to the vocabulary, learning strategies and word frequency are important factor in FL vocabulary learning. As for the '*format and presentation*', high-frequency FL words should occur in the 'language-focused learning, meaning focused input and output and frequency development'. Thus, learners will be able to produce FL words from using them frequently. In the '*monitoring and assessment*' stage, teachers make students take a test for recognizing the vocabulary in which students should learn. Assessment can be used to help learners reflect on their vocabulary learning, and this can help to decide what vocabulary will be focused on.¹²

d. Vocabulary Mastery

Vocabulary is central of language in which it is the biggest component of any language and the success in learning language can be proved by the success in mastering vocabulary. Vocabulary mastery means complete knowledge or great skill of a list of English words that includes the meaning of words, spelling, pronunciation, and the use of words in right context.¹³

Vocabulary mastery is needed to express our ideas and to be able to understand other people's sayings. Hornby defines mastery as complete knowledge or complete skill. From that definition, mastery means complete knowledge or great skill that makes someone a master in a certain subject.

Vocabulary mastery refers to the great skill in processing words of a

¹²Ekaterina Popandonova, "*Vocabulary Perceptions and Principles in Foreign Language Learning and Teaching*", Vol. III, No. 50 (2011): 145-154.

¹³Iful Rahmawati Mega, dkk, "*A Correlational Study Between Vocabulary Mastery, Student's English Interest, and Student's English Achievement*", Vol. II, No. 1 (March 2015): 6-11.

language. It is an individual achievement and possession. For that reason, the biggest responsibility in increasing the knowledge is in the individual himself. The success in widening the vocabulary mastery requires their own motivation and interest on the words of a language. From the definition above, we can conclude that vocabulary mastery is an individual's great skill in using words of a language, which is acquired based on their own interests needs and motivation. vocabulary mastery plays an important role in the four language skills and it has to be considered that vocabulary mastery is one of the needed components of language.¹⁴

2. Game

a. Definition of Game

According to Hadfield (1987: iii), a game is an activity with rules, a goal and an element of fun.¹⁵ So, games should be fun. games coincide principally in three aspects: goal, rules, and enjoyment. While performing games, there is always a goal to reach, rules to follow, and enjoyment to experience.

Everybody like games, no matter how old they are. Games are useful to cheer up the classroom atmosphere, to arouse students' motivation and attention, to relax a strenuous situation and to have some fun (Leo, 2013: 143).¹⁶

In addition, according to Wright, Betteridge, and Bucky (1994: 1) the word 'game' means, an activity which is entertaining and engaging, often challenging and an activity in which learners play and usually interact with

¹⁴Mofareh Alqahtani, "The Importance Of Vocabulary In Language Learning And How To Be Taught", *International Journal Of Teaching And Education*, Vol. III, No. 3 (March 2015): 21-34.

¹⁵Hadfield Jill, (1987), *Advanced Communication Games*, England: Wesley Longman United, p. iii.

¹⁶Sutanto Leo, (2013), *A Challenging Book to Practice Teaching in English*, Yogyakarta: C.V ANDI OFFSET, p. 143.

others.¹⁷ Therefore, the games do not only help to learn new vocabulary but also develop learners' social and communicative skills, their sense of fair play and encourage, and increase cooperation.

Furthermore, Lewis and Bedson (1999: 5) stated that playing games is a vital and natural part of growing up and learning. Through games children experiment, discover, and interact with their environment.¹⁸ It means that, games give more parts for children in their learning activity and also give them freedom to do what they want to do. It can build up their creativity.

b. Stirred Words and Sentences Game

Stirred words and sentences game is a word game in which the students should arrange the letters become a meaningful words and arrange the words become a meaningful sentences.¹⁹ Actually, this game has the similarities with word scramble game from the rules of play and the materials used in the game.

According to Robert B. Taylor (2001), scramble is one of learning method that can improve the concentration and students' speed of thinking. In this game, students are not only asked to answer the questions, but also to guess the available answers quickly but still in random conditions.²⁰

In addition, according to Shoimin (2016: 166), "*Scramble merupakan model pembelajaran yang mengajak siswa untuk menemukan jawaban dan menyelesaikan permasalahan yang ada dengan cara membagikan lembar soal*

¹⁷Andrew Wright, David Betteridge, & Michael Buckby, (2006), *Games for language learning*, Cambridge, UK: Cambridge University Press, p. 1.

¹⁸Gordon Lewis and Gunther Bedson, (1999), *Games for Children*, Canada: Oxford University Press, p. 5.

¹⁹RifaSocer.http://www.academia.edu/7636733/MacamMacam_Permainan_Kinds_of_Games_Bahasa_Ingris_Kelas_2. Accessed on November 22th, 2017 at 18:09 p.m.

²⁰Miftahul Huda, (2017), *Model-Model Pengajaran Dalam Pembelajaran*, Yogyakarta: Pustaka Pelajar, p. 303-304.

dan lembar jawaban yang disertai dengan alternatif jawaban yang tersedia”.

(Scramble is a learning model that invites students to find answers and solve existing problems by sharing the exercises and answer sheet accompanied by available alternative answers).²¹

In conclusion, stirred words and sentences game has similarity with word scramble game. In both games, the students will be given the unscramble letters and words and they should arrange the letters become meaningful words and arrange the words become meaningful sentences.

c. **Types of Stirred Words and Sentences Game**

This game consists of two types, they are:

- 1) Stirred words is a game of composing words and letters that have been randomly located so as to form a certain meaningful word.
- 2) Stirred sentences is a game of composing a sentences from a random word. The form of a sentence should be logical, meaningful, precise, and correct.

Table 2.1
The Operasional Instruction for Stirred Words and Sentences Game

1.	Grade Level	Senior High School
2.	Description	In this lesson, students will have a worksheet of unscramble letters that they should form it into the correct word and unscramble words that they should form it into the correct sentence.
3.	Goals	Students will learn: a. About many vocabularies.

²¹Aris Shoimim, (2016), 68 Model Pembelajaran Inovatif dalam Kurikulum 2013, Yogyakarta: Ar-Ruzz Media, p. 166.

		b. To make them to be active and critical.
4.	Materials Needed	<p>a. Answer sheets.</p> <p>b. Paper card measuring 7x10 cm as required. On each card are written with unscramble letters and words.</p>
5.	Procedure	<p>Forming several groups consist of 3 to 5 people.</p> <p>Prepare the groups to compose letters and words that stirred in accordance with orders given.</p> <p>Commands can be written on the board.</p> <p>The answers are written on the answer sheet.</p> <p>The correct answer gets 10 points.</p> <p>The group that gathered the most points are entitled to be a winner.</p>
6.	Directions	<p>Arrange these letters to make the right words.</p> <p>Arrange these words to make the right sentences.</p>
7.	Worksheet	<p>P-c-t-r-e-i-u</p> <p>H-r-u-b-s</p> <p>S-e-r-u-p</p> <p>C-l-e-i-n-p</p> <p>W-o-d-w-n-i</p> <p>1st Card : to-last-temple-father-Borobudur-my-went-month.</p> <p>2nd Card : doing-are-Tati-you-what?.</p> <p>3rd Card : difficult-is-lesson-explaining-a-the-letter.</p> <p>4th Card : well-can-English-speak-Maria.</p> <p>5th Card : now-you-maths-are-studying ?-am-so-not-I.</p>
8.	Evaluation	<p>After played the game, teacher can grade the students on the number correct out of the words and sentences.</p>

d. Advantages and Disadvantages of Stirred Words and Sentences Game

1. Advantages

- 1) This game requires skills of the members of the group to learn together. Therefore, every student should learn actively.
- 2) The game allows students to learn while playing.
- 3) This game can increase the sense of solidarity within the group.

2. Disadvantages

- 1) This playing method is difficult to be planned due to differences with the students' habit in learning.
- 2) Sometimes in implementing it requires a long time. So the teacher should adjust the time of playing this game to the time that have been planned before.²²

B. Conceptual Framework

In the previous sub chapter, the review of the theoretical framework, the writer explains some theories underlying two variables used in this research: stirred words and sentences game and students' vocabulary mastery. The theories will be used to test the hypothesis: There is a significant effect of stirred words and sentences game on the students' vocabulary mastery of the tenth grade students of MAS PAB 2 Helvetia.

Vocabulary is an important tool in learning a foreign language because it has a primary role for all language skills. It can be considered as the basic to be able to communicate well in foreign language. That is why people should master vocabulary. Mastering vocabulary means that we know all the words in the

²²*Ibid.*, p. 168-169.

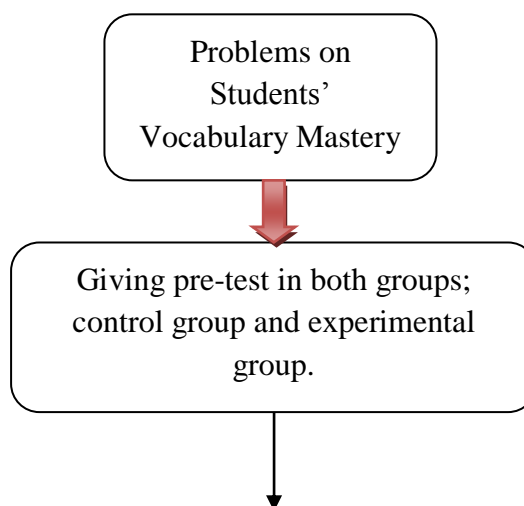
language which we use. By having large of vocabulary, we can precisely open our ideas in communication.

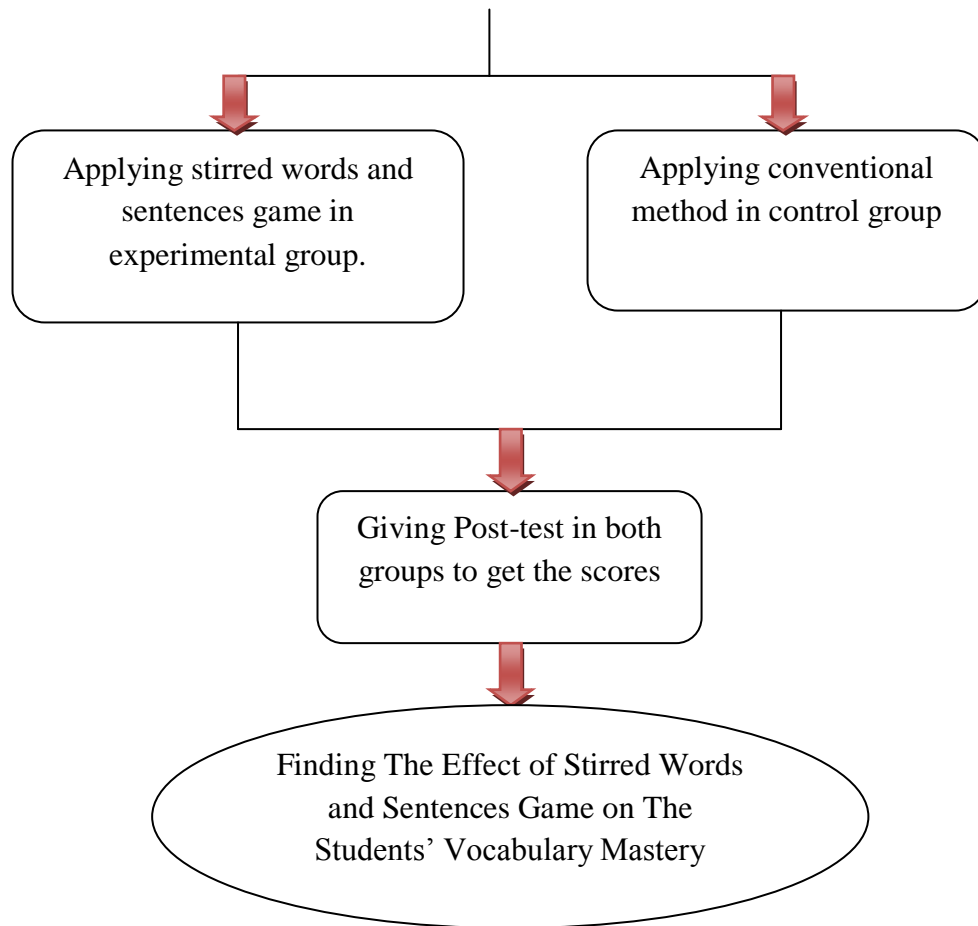
This study will find out the effect of stirred words and sentences game on the students' vocabulary mastery. Stirred words and sentences game is the game which is the students should arrange the letters become meaningful words and arrange the words become a meaningful sentences. This game can increase students creativity in arranging the letters and words and can make the students think critically.

In this reseach, the researcher uses experimental research. The sample will be divided into two groups; experimental and control. In experimental group, the researcher will give treatment by using stirred words and sentences game, while the control group will be given by using conventional method. In both groups, the researcher will give pre-test before the treatment and will give post-est after the treatment. Later, the result of each test will be measured to prove the hypothesis.

Therefore, the way of thinking for this research can be illustrated as the following figure:

Figure 2.2
Conceptual Framework





C. Hypotheses

To find the answer of the problems, the writer should propose Alternative hypothesis (H_a) and Null Hypothesis (H_0) as follow:

1. Alternative hypothesis (H_a) : there is significant effect of using stirred words and sentences game on the students' vocabulary mastery.
2. Null hypothesis (H_0) : there is no significant effect of using stirred words and sentences game on the students' vocabulary mastery.

CHAPTER III

RESEARCH METHODOLOGY

A. Research Design

In this research, the writer will conduct a quantitative experimental research. Experimental research involves a study of the effect of the systematic manipulation of one variable(s) on another variable (Ary, 2010: 26)²³.

The design will be applied to investigate the effect of using Stirred Words and Sentences Game on the Students' Vocabulary Mastery. This research consists of two different groups; experimental group for X-IIS that consist of 36 students and control group for X-MIA that consist of 36 students. The experimental group will be taught by using Stirred Words and Sentences Game and control group will be taught by using conventional method. Both of groups will be given pre-test and post-test with the same questions. The design of this research can be seen below:

Table 3.1
Research Design

Randomly Assigned	Pre-test	Treatment	Post-test
Experimental Group		Stirred Words and Sentences Game	
Control Group		Conventional Method	

B. Population and Sample

1. Population

According to Ary (2010: 148), a population is defined as all members of

²³ Donald Ary, (2010), *Introduction To Research In Education*, Canada: Nelson Education, Ltd, p.26

any well-defined class of people, events, or objects.²⁴From this research, the writer takes the whole students at tenth grade of MAS PAB 2 Helvetia as a population. There are two classes that divided into 2 majors, they are X-IIS and X-MIA. The total number of the students are 72 students. The detail is as follow :

Table 3.2
Population of Research

Class	Number
X-MIA	36
X-IIS	36
Total	72

2. Sample

According to Ary (2010: 148), a sample is a portion of a population.²⁵In this research, the sample will be taken from whole the population. Arikunto (2006: 71) states that “*Apabila populasi penelitian berjumlah kurang dari 100, maka sampel dapat diambil seluruhnya, sehingga penelitiannya menjadi penelitian populasi*”²⁶. (If the population is less than 100, then the sample can be taken entirely, so that the research became population research).

Because of the tenth grade students consist of two classes, so, in this research, the writer will be taken all the classes and divided them into two groups; 36 students of experimental group from X-IIS and 36 students of control group from X-MIA.

C. Data Collection

²⁴ *Op.Cit.*, p.148.

²⁵ *Ibid.*, p. 148.

²⁶ Suharsimi Arikunto, (2006), *Prosedur Penelitian: Suatu Pendekatan Praktek*, Jakarta: PT.Rineka Cipta, p. 71.

The writer will use a quantitative data in this study. The researcher uses primary data to get informations in experimental study by using pre-test and post-test. In this research, the researcher will do two observations, before experiment and after experiment. The observation before experiment is Pre-test, and the observation after experiment is Post-test. In the middle of Pre-test and Post-test, the researcher will give the treatment by using Stirred Words and Sentences Game.

In collecting the data, the vocabulary test that will be given to the students is essay test. There are 30 items that consist of 15 vocabulary items of stirred words and 15 vocabulary items of stirred sentences. The tests should be done by the students in 30 minutes. After that, the researcher will give the score and rank the students who get the highest score.

The items of both tests are calculated with the formula:

$$Student's\ score = \frac{Correct\ answer}{Total\ number\ of\ test\ items} \times 100$$

In order to know the classification of students' score, the writer will use the following classification:

Table 3.3
The Achievement of Students' English Vocabulary

Classification	Score
Excellent	91 – 100
Very Good	81 – 90
Good	71 – 80
Poor	61 – 70
Failure	Less than 60

D. Data Analysis

The researcher uses the data from students' tests to find out the result of students' vocabulary knowledge by applying Stirred Words and Sentences Game in the experimental class and by applying conventional method in the control class. After all students' scores is obtained, next the researcher will conduct normality and homogeneity tests. After analyzing the normality and homogeneity tests, the researcher uses T-test to find out the differences between students' score that are taken from pre-test and post-test in experimental class and control class.

1. Validity

Validity is the ability the test to measure what is supposed to measure. In other word, validity indicates what the test precisely measures and how well the test measure. For a valid test, it is expected that the content and condition are relevant. The researcher uses Biserial Coefficient Correlation.

The formula as follows:

$$r_{\text{bis(i)}} = \frac{Xi - Xt}{St} \sqrt{\frac{p1}{q1}}$$

Where:

$r_{\text{bis(i)}}$ = biserial coefficient correlation

Xi = the meanof the right answer of item number 1

Xt = the mean of total score

St = the standard deviation of total score

$p1$ = the total of right answer of item number 1

$q1$ = the total of wrong answer of item number 1²⁷

²⁷Rusydi Ananda and Tien Rafida (2017), *Pengantar Evaluasi Program Pendidikan*, Medan: Perdana Publishing, p. 125.

To interpret the test validity price, consult the price at the criticism price of r at product moment, $\alpha = 0.05$. If $r_{count} > r_{table}$ so the item is valid.

2. Reliability

Reliability refers to the consistency of the measurement. The test is reliable when it shows stable outcome. The more reliable the test is, the more confidence the scores obtain from the administration of the test. So, to obtain the reliability of the test, the writer uses Khuder Richardson (KR 20) formula.

The formula as follows:

$$r_{11} = \frac{n}{n-1} \left(1 - \frac{S^2 - \sum pq}{S^2} \right)$$

Where :

n = Number of students

p = Total of right answer

q = Total of wrong answer

S^2 = The square of the standard deviation of the test score²⁸

Based on Pearson's Product Moment Formula, the coefficient of r can be interpreted by using these criteria as follows :

0,00 – 0,20 : Negligible

0,21 – 0,40 : Low

0,41 – 0,60 : Moderate

0,61 – 0,80 : Substantial

0,81 – 1,00 : High to very high

²⁸*Ibid*, p. 133.

3. Normality Test

Normality test is used to know whether the data that got from the sample have a normal distribution or not. In this research, the normality test will be done by using Lilifors test. The steps of Lilliefors' formula of normality is following:

- a. Create the H_a and H_0
- b. Account the mean and deviation of data by using formula:

$$\bar{X} = \frac{\sum Xi}{n} \text{ dan } S = \sqrt{\frac{n \sum X^2 - (\sum X)^2}{n(n-1)}}$$

- c. Each the data X_1, X_2, \dots, X_n be the numeral standard of Z_1, Z_2, \dots, Z_n by using the formula $Z_{\text{score}} = \frac{Xi - \bar{X}}{S}$, (\bar{X} and S as the mean and deviation of sample).

- d. For every the numeral standard and using the distribution of normal raw, then account the $F_{(Z_i)} = P(Z \leq Z_i)$.

- e. Next, account the proportion of Z_1, Z_2, \dots, Z_n minor or same with Z_i . If

the proportion stated by $S(z_i)$. So, $S_{(Z_i)} = \frac{\text{number of } Z_1, Z_2, \dots, Z_n \leq Z_i}{n}$. To

easier of accounting the propotion of data should be sequenced from the smaller to the bigger.

- f. Account the deviation $F(z_i) - S(z_i)$ then finding the absolute value.
- g. Take the biggest value between deviation absolute value. This is called by L_0 .

- h. To accept and reject the nul hypothesis, we should compare between L_0 and L crisis for obvious level $\alpha = 0,05$. H_0 is accepted if L_0 is smaller than L_t .²⁹

4. Homogeneity Test

Homogeneity test is used to determine whether the sample variance has the same or homogeneous variance. Test of homogeneity is used with the following formula:

$$F = \frac{\text{Highestvarians}}{\text{lowestvarians}}$$

Criteria for testing H_0 is rejected if $F \geq F_{0,05}(v1, v2)$ where $F_{0,05}(v1, v2)$ obtained from the F distribution list with a chance of $\alpha = 0,05$ and $\alpha = 0,01$, whereas the $v1$ and $v2$ degrees of freedom each corresponding to df numerator and denominator of the formula above.³⁰

5. t-test

The writer will use T-test to find out the hypothesis significant. It is to know whether the H_0 is accepted or not. For the sake of computation, it will use t-test formula as follows:

$$t = \frac{Ma - Mb}{\sqrt{\left(\frac{da^2 + db^2}{Na + Nb - 2}\right)\left(\frac{1}{Na} + \frac{1}{Nb}\right)}}$$

In which:

t : total score

Ma : the mean of experimental group

Mb : the mean of control group

²⁹Sudjana, (2005), *Metode Statistika*, Bandung: Tarsito Bandung, p.466-467.

³⁰*Ibid*, p.14.

Da^2 : the standard of deviation of experimental group

Db^2 : the standard of deviation of control group

Na : the total numbers of experimental group

Nb : the total numbers of control group³¹

To measure the effect size to know how Stirred Words and Sentences Game on the students' vocabulary mastery, the measure of the effect size used with the t-test is called Cohen's d. The formula for this effect size can be seen as follows:

$$d = \frac{M1 - M2}{\left(\frac{SD1^2 + SD2^2}{2} \right)}$$

The criteria of the effect size are as follows:

0 – 0.20 : weak effect

0.21 – 0.50 : modest effect

0.51 – 1.00 : moderate effect

>1.00 : strong effect³²

E. Research Prosedure

In conducting the research, there are some procedures for taking the data:

1. Pre-Test

Pre-test will be given to both of the classes; control group and experimental group before treatment. It is done to find out the normality and homogeneity of the samples.

2. Teaching Presentation (Treatments)

³¹*Op.Cit.*, p.239.

³²Muijs, Daniel, (2004), *Doing Quantitative Research in Education with SPSS*, London: Sage Publications, p.139.

A treatment will be conducted to the experimental group to find out the effect of teaching vocabulary by using Stirred Words and Sentences Game. The teaching learning process in experimental group and control group is as follows :

Table 3.4
The Treatment for Experimental Group and Control Group

Experimental Group (Applying Stirred Words and Sentences Game)		Control Group (Applying Conventional Method)	
Teacher's Activity	Students' Activity	Teacher's Activity	Students' Activity
Step 1 Teacher opens the class by greeting and explains in brief what they are going to do in the meeting. Students pay attention to the teacher's explanation and introduction, give comment or questions.		Teacher opens the class by greeting and explains in brief what they are going to do in the meeting. Students pay attention to the teacher's explanation and introduction, give comment or questions.	
Step 2 Teacher explains about the learning topic and ask about some common vocabularies. Students pay attention and answer the questions.		Teacher explains about the learning topic and ask about some common vocabularies. Students pay attention and answer the questions.	
Step 3 Teacher explains to the students about the Stirred Words and Sentences Game. Students pay attention to the teacher's explanation and prepare the game's tools.		Teacher asks the students to read the narrative text in their book and find out some difficult vocabularies. Students do what the teacher asks and write the vocabularies.	
Step 4			

<p>Teacher divides the students into 5 groups. Each groups will get game tools and answer sheet. Teacher gives some instructions to the students about how to play the game.</p> <p>Students follow the instructions and start to play the game.</p> <p>Step 5</p> <p>Teacher asks the students to arrange all the word questions in 30 minutes.</p> <p>Students do what the teacher asks.</p> <p>Step 6</p> <p>Teacher collects the answer sheets after the time is up.</p> <p>Students collect the answer sheets.</p> <p>Step 7</p> <p>Teacher checks the answer and rank the highest score.</p> <p>Students pay attention.</p> <p>Step 8</p> <p>Teacher tells to the students if the highest score will become the winner.</p> <p>Students pay attention and get enthusiastic.</p> <p>Step 9</p> <p>Teacher reviews and concludes the material.</p> <p>Students respond and listen to the researcher's explanation.</p> <p>Step 10</p> <p>Teacher closes the lesson by greeting.</p> <p>Students give respond.</p>	<p>Teacher divide the students into 5 groups and answer the question with their group.</p> <p>Students discuss with their group.</p> <p>Teacher asks to collect the answer in 30 minutes.</p> <p>Students do what the teacher asks.</p> <p>Teacher checks the students' answer.</p> <p>Students pay attention.</p> <p>Teacher gives a score and rank the highest score.</p> <p>Students pay attention and get enthusiastic.</p> <p>Teacher reviews and concludes the material.</p> <p>Students respond and listen to the researcher's explanation.</p> <p>Teacher closes the lesson by greeting.</p> <p>Students give respond.</p>
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3. **Post-Test**

After conducting the treatment, the post-test will be given to the students. It aims to get the mean scores of experimental group and control group. It is applied to analyze and evaluate both of the groups and to know the effect of treatment of teaching presentation in both groups.

F. **Hypotheses Test**

After obtaining the t-test, the researcher compares t-test and t-table. Testing hypothesis uses criteria with significant degree 5% (0.05). The conclusion is obtained as follows:

H_a is accepted if $t_o > t_{table}$, or if the Sig. (2-tailed) < 0.05 .

H_0 is accepted if $t_o < t_{table}$, or if the Sig. (2-tailed) > 0.05 .

CHAPTER IV

FINDINGS AND DISCUSSIONS

A. Findings

This research is conducted by applying an experimental research. There are two groups in this research, namely experimental group and control group. Both experimental and control group are given the vocabulary test on the pre-test and post-test which the total score is 100. The pre-test is given before the treatment and the post test is given after the treatment. The researcher give the treatment to students in the experimental group by applying Stirred Words and Sentences Game, while in the control group by applying conventional method.

After applying the pre-test and post-test to both the experimental and control group, the students' score are obtained. The result is as follow :

1. Description of Data

a. The Result of Students' Pre-test and Post-test in Experimental Group

Table of the result of pre-test and post-test in experimental class (See Appendix 5), show that the lowest score of the pre-test was 33 and the highest score was 80. On the other hand, the lowest score of the post-test is 60 and the highest score is 100. The average of the pre-test scores is 59.39 and post-test is 86.92. The average of gained score is 27.53. It can be concluded that the average of the students who got treatment by using Stirred Words and Sentences Game is higher than the average of pretest.

b. The Result of Students' Pre-Test and Post-test in Control Group

Table of the result of students' pre-test and post-test in control class (See Appendix 5), show that the lowest score of the pre-test is 17 and the highest score is 70 while the lowest score of the post-test is 33 and the highest score is 80. The average of the pre-test scores is 54.94 and post-test is 67.69. In addition, the average of gained score is 12.75. Therefore, the result of all scores are the experimental class got higher score than the control class.

Furthermore, the result of students' achievement score in both experimental group and control group are described in the table as follows:

Tabel 4.1
Students' Achievement Score in Pre-Test and Post-Test

Statistical Calculation	Experimental Class		Control Class	
	Pre-test	Post-test	Pre-test	Post-test
X	59.39	86.92	54.94	67.69
Med	62	87	60	70
Mo	63	90	60	70
SD	11.52	8.01	11.76	9.55
SE	1.92	1.33	1.96	1.59
Min	33	67	17	33
Max	80	100	70	80
Sum	2138	3129	1978	2437
N	36	36	36	36

Where :

X : Mean of the sample

Med : Median of the sample

Mo : Mode of the sample

SD : Standard deviation of the sample

SE : Standard error of the sample

Min : Minimum score of the sample

Max : Maximum score of the sample

Sum : Total score of the sample

The table shows that the mean score of both pre-test and post-test of the students in the control class is quite lower than in the experimental class. The result of the mean score describes that the difference of the students' basic knowledge is almost equal.

For the total score, the table of students' post-test shows that experimental class get 3129 and control class get 2437. It indicates that the total score in experimental class is much higher than control class. Comparing with the results in pre-test, the experimental class shows the high enhancement. Meanwhile, the control class scores are decreased.

c. Students' Classification Score in Pre-Test for Experimental and Control Class

In the Experimental class, there are none of student or (0%) classified into Excellent and Very Good, 4 students or (14%) are classified into Good, 13 students or (36%) are classified into Poor, and 18 student or (50%) are classified into Failure.

For Control class, there are none of student or (0%) are classified into Excellent, Very Good, and Good, 12 students or (33%) classified into Poor, and 24 students or (67%) classified into Failure. The data are shown in the following table:

Tabel 4.2
The Rate Percentage of the Students' Post-Test Score

No	Classification	Score	Experimental Class		Control Class	
			F	P (%)	F	P (%)
1	Excellent	91 – 100	0	0	0	0

2	Very Good	81 – 90	0	0	0	0
3	Good	71 – 80	5	14%	0	0
4	Poor	61 – 70	13	36%	12	33%
5	Failure	Less than 60	18	50%	24	67%
Total			36	100	36	100

The data shown in the table indicates that students in Experimental class get the better percentage than Control class. In Experimental class, the classification of failure is 50%, while in Control class is 67%. It indicated that students' pre-test in control class is more less than in Experimental class. Students' classification score can be seen in Appendix 6.

d. Students' Classification Score in Post-Test for Experimental and Control Class

In the Experimental class, there are 10 students or (28%) classified into Excellent, 17 students or (44%) are classified into Very Good, 7 students or (19%) are classified into Good, 2 students or (6%) are classified into Poor, and none of student or (0%) are classified into Failure.

For Control class, there are none of student or (0%) are classified into Excellent and Very Good, 15 students or (42%) classified into Good, 13 students or (36%) classified into Poor, and 8 students or (22%) classified into Failure. The data are shown in the following table:

Tabel 4.3
The Rate Percentage of the Students' Post-Test Score

No	Classification	Score	Experimental Class		Control Class	
			F	P (%)	F	P (%)
1	Excellent	91 – 100	10	28%	0	0
2	Very Good	81 – 90	17	47%	0	0
3	Good	71 – 80	7	19%	15	42%

4	Poor	61 – 70	2	6%	13	36%
5	Failure	Less than 60	0	0	8	22%
Total			36	100	36	100

The data shown in the table indicates that students in Experimental class have better enhancement than Control class. In Experimental class, the classification from Excellent to Very Good is 75%, while in Control class is 0%. It indicated that students' post-test in Experimental class is much higher than in Control class. Students' classification score can be seen in Appendix 7.

2. Analysis of Data

The analyzing of the data is obtained by giving the vocabulary test to the students in order to know their achievement in vocabulary mastery. It is calculated by using the scores of vocabulary test in both the experimental group and control group. The analyzing of data of pre-test and post-test in both of the groups are computed by applying test of normality test, homogeneity of variance, and independent t-test computing to prove the hypothesis in this study. In details, those data is conducted as following calculation.

a. Validity Testing

To calculate the validity of the test, it uses Biserial Coefficient Correlation. For example the question number 2, the researcher get the data:

$$X_i = 86.40 \quad p_1 = 0.83$$

$$X_t = 84.53 \quad q_1 = 0.17$$

$$S_t = 6.02$$

The formula is calculated as follow :

$$r_{\text{bis}(i)} = \frac{Xi - Xt}{St} \sqrt{\frac{p1}{q1}}$$

$$r_{\text{bis}(i)} = \frac{86.40 - 84.53}{6.02} \sqrt{\frac{0.83}{0.17}}$$

$$r_{\text{bis}(i)} = \frac{1.867}{6.02} \sqrt{4.88}$$

$$r_{\text{bis}(i)} = 0.31 \cdot 2.236$$

$$r_{\text{bis}(i)} = 0.693$$

From the above result, the value of $r_{\text{count}} = 0.693$ and r_{table} is 0.374, with significance $\alpha = 0.05$ and $n = n-2 = 28$. The value of r_{count} is compared with the value of r_{table} . If $r_{\text{count}} > r_{\text{table}} = 0.693 > 0.374$, so the item tested is valid. It means that the instrument can be used as an equipment for collecting data (See Appendix 8).

b. Reliability Testing

Reliability testing used Khuder Richardson formula (KR-20). For calculating, the researcher get the data:

$$n = 100 \quad St^2 = 36.257$$

$$\Sigma pq = 10,153$$

The formula is calculated as follow :

$$r_{11} = \frac{n}{n-1} \left(1 - \frac{\Sigma pq}{St^2} \right)$$

$$r_{11} = \frac{100}{100-1} \left(1 - \frac{(10.153)}{36.257} \right)$$

$$r_{11} = \frac{100}{99} (1 - 0.28)$$

$$r_{11} = 1.01 (0.72)$$

$$r_{11} = 0.727$$

Based on the coefficient of (r), it can be interpreted using these criteria as follows :

0.00 – 0.20 : Negligible

0.21 – 0.40 : Low

0.41 – 0.60 : Moderate

0.61 – 0.80 : Substantial

0.81 – 1.00 : High to very high

From the above calculation, the result of the reliability is 0.727. It can be concluded that the reliability of the test is **substantial**. For the complete calculation can be seen on appendix 9.

c. Normality Testing

Liliefors testing is used in this research to examine wheter the normality data is a normal distribution or not. All result of the tests is described in calculation as follows:

a. Normality Testing of Pre-Test in Experimental Group

Based on the table of frequency distribution of pre-test in experimental group (See Appendix 10), the result of $F_i(X_i^2)$ is 131618 and F_iX_i is 2138. Then the following is the calculation of mean, variant and standard deviation.

a) Mean

$$\bar{x} = \frac{\sum F_i X_i}{\sum F_i}$$

Where:

\bar{x} = Mean of variable x

$\sum F_i X_i$ = Total number of score

$$\sum F_i = \text{Number of sample}$$

So,

$$x = \frac{\sum F_i X_i}{\sum F_i}$$

$$x = \frac{2138}{36}$$

$$x = 59.39$$

b) **Variant**

$$S^2 = \frac{n \sum F_i X_i^2 - (\sum F_i X_i)^2}{n(n-1)}$$

Where :

$$S^2 = \text{Variant}$$

$$N = \text{Number of sample}$$

So,

$$S^2 = \frac{n \sum F_i X_i^2 - (\sum F_i X_i)^2}{n(n-1)}$$

$$S^2 = \frac{36.131618 - (2138)^2}{36(36-1)}$$

$$S^2 = \frac{4738248 - 4571044}{36(35)}$$

$$S^2 = \frac{167204}{1260}$$

$$S^2 = 132.70$$

c) **Standard Deviation**

$$S = \sqrt{S^2}$$

$$S = \sqrt{132.70}$$

$$S = 11.519$$

After getting the calculation of mean, variant and standard deviation, then the next step is to find out the normality of the test. Based on the table of normality testing of pre-test in experimental grup (See Appendix 10), it can be calculated as follow:

a) **Finding Z score**

$$\text{Formula: } Z_i = \frac{X_i - \bar{X}}{s}$$

$$Z_i 1 = \frac{33-59.39}{11.52} = -2.291$$

$$Z_i 10 = \frac{67-59.39}{1.52} = 0.661$$

$$Z_i 2 = \frac{40-59.39}{11.52} = -1.683$$

$$Z_i 11 = \frac{70-59.39}{11.52} = 0.921$$

$$Z_i 3 = \frac{43-59.39}{11.52} = -1.423$$

$$Z_i 12 = \frac{73-59.39}{11.52} = 1.182$$

$$Z_i 4 = \frac{47-59.39}{11.52} = -1.076$$

$$Z_i 13 = \frac{77-59.39}{11.52} = 1.529$$

$$Z_i 5 = \frac{50-59.39}{11.52} = -0.815$$

$$Z_i 14 = \frac{80-59.39}{11.52} = 1.789$$

$$Z_i 6 = \frac{53-59.39}{1.52} = -0.555$$

$$Z_i 7 = \frac{57-59.39}{11.52} = -0.207$$

$$Z_i 8 = \frac{60-59.39}{11.52} = 0.053$$

$$Z_i 9 = \frac{63-59.39}{11.52} = 0.313$$

b) **Finding S(Z_i)**

$$S(Z_i) = \frac{F Kum}{N}$$

$$\frac{1}{36} = 0.03$$

$$\frac{18}{36} = 0.50$$

$\frac{2}{36} = 0.06$	$\frac{25}{36} = 0.69$
$\frac{4}{36} = 0.11$	$\frac{26}{36} = 0.72$
$\frac{7}{36} = 0.19$	$\frac{31}{36} = 0.86$
$\frac{11}{36} = 0.31$	$\frac{33}{36} = 0.92$
$\frac{13}{36} = 0.36$	$\frac{35}{36} = 0.97$
$\frac{15}{36} = 0.42$	$\frac{36}{36} = 1$

From the above result, it can be seen that Liliefors observation or $L_0 = 0.023$ with $n = 36$ and at real level $\alpha = 0.05$ from the list of critical value of Liliefors table $L_t = 0.147$. It shows that the coefficient of L_0 (0.023) $< L_t$ (0.147). So, it can be concluded that the data distribution of the students' vocabulary mastery is **normal**.

b. Normality Testing of Post-Test in Experimental Group

Based on the table of frequency distribution of post-test in experimental group (See Appendix 10), the result of $F_i(X_i^2)$ is 274207 and F_iX_i is 3129. Then the following is the calculation of mean, variant and standard deviation.

a) Mean

$$\bar{x} = \frac{\sum F_i X_i}{\sum F_i}$$

Where:

\bar{x} = Mean of variable x

$\sum F_i X_i$ = Total number of score

$$\sum F_i = \text{Number of sample}$$

So,

$$x = \frac{\sum F_i X_i}{\sum F_i}$$

$$x = \frac{3129}{36}$$

$$x = 86,92$$

b) **Variant**

$$S^2 = \frac{n \sum F_i X_i^2 - (\sum F_i X_i)^2}{n(n-1)}$$

Where :

$$S^2 = \text{Variant}$$

$$N = \text{Number of sample}$$

So,

$$S^2 = \frac{n \sum F_i X_i^2 - (\sum F_i X_i)^2}{n(n-1)}$$

$$S^2 = \frac{36.274207 - (3129)^2}{36(36-1)}$$

$$S^2 = \frac{9871452 - 9790641}{36(35)}$$

$$S^2 = \frac{80811}{1260}$$

$$S^2 = 64.14$$

c) **Standard Deviation**

$$S = \sqrt{S^2}$$

$$S = \sqrt{64.14}$$

$$S = 8$$

After getting the calculation of mean, variant and standard deviation, then the next step is to find out the normality of the test. Based on the table of normality testing of post-test in experimental grup (See Appendix 8), it can be calculated as follow:

a) **Finding Z score**

$$\text{Formula: } Z_i = \frac{Xi - \bar{X}}{s}$$

$$Z_i 1 = \frac{67-86.92}{8} = -2.49$$

$$Z_i 6 = \frac{87-86.92}{8} = -0.01$$

$$Z_i 2 = \frac{70-86.92}{8} = -2.12$$

$$Z_i 7 = \frac{90-86.92}{8} = -0.39$$

$$Z_i 3 = \frac{77-86.92}{8} = -1.24$$

$$Z_i 8 = \frac{93-86.92}{8} = -0.76$$

$$Z_i 4 = \frac{80-86.92}{8} = -0.87$$

$$Z_i 9 = \frac{97-86.92}{8} = -1.26$$

$$Z_i 5 = \frac{83-86.92}{8} = -0.49$$

$$Z_i 10 = \frac{100-86.92}{8} = 1.64$$

b) **Finding S(Z_i)**

$$S(Z_i) = \frac{F Kum}{N}$$

$$\frac{1}{36} = 0.03$$

$$\frac{19}{36} = 0.53$$

$$\frac{2}{36} = 0.06$$

$$\frac{26}{36} = 0.72$$

$$\frac{6}{36} = 0.17$$

$$\frac{30}{36} = 0.83$$

$$\frac{9}{36} = 0.25$$

$$\frac{34}{36} = 0.94$$

$$\frac{13}{36} = 0.36$$

$$\frac{36}{36} = 1$$

From the above table, it can be seen that Liliefors observation or $L_0 = -0.021$ with $n = 36$ and at real level $\alpha = 0.05$ from the list of critical value of Liliefors table $L_t = 0.147$. It shows that the coefficient of $L_0 (-0.021) < L_t (0.147)$. So, it can be concluded that the data distribution of the students' vocabulary mastery is **normal**.

c. Normality Testing of Pre-Test in Control Group

Based on the table of frequency distribution of pre-test in control group (See Appendix 11), the result of $F_i(X_i^2)$ is 113518 and F_iX_i is 1978. Then the following is the calculation of mean, variant and standard deviation.

a) Mean

$$x = \frac{\sum F_i X_i}{\sum F_i}$$

Where:

x = Mean of variable x

$\sum F_i X_i$ = Total number of score

$\sum F_i$ = Number of sample

So,

$$x = \frac{\sum F_i X_i}{\sum F_i}$$

$$x = \frac{1978}{36}$$

$$x = 54.94$$

b) Variant

$$S^2 = \frac{n \sum F_i X_i^2 - (\sum F_i X_i)^2}{n(n-1)}$$

Where :

$$S^2 = \text{Variant}$$

$$N = \text{Number of sample}$$

So,

$$S^2 = \frac{n\sum F_i X_i^2 - (\sum F_i X_i)^2}{n(n-1)}$$

$$S^2 = \frac{36.113518 - (1978)^2}{36(36-1)}$$

$$S^2 = \frac{4086648 - 3912484}{36(35)}$$

$$S^2 = \frac{174164}{1260}$$

$$S^2 = 138.23$$

c) **Standard Deviation**

$$S = \sqrt{S^2}$$

$$S = \sqrt{138.23}$$

$$S = 11.757$$

After getting the calculation of mean, variant and standard deviation, then the next step is to find out the normality of the test. Based on the table of normality testing of pre-test in control grup (See Appendix 11), it can be calculated as follow:

a) **Finding Z score**

$$\text{Formula: } Z_i = \frac{X_i - \bar{X}}{s}$$

$$Z_{i1} = \frac{17 - 54.94}{11.76} = -3.23$$

$$Z_{i7} = \frac{53 - 54.94}{11.76} = -0.17$$

$$Z_{i2} = \frac{27 - 54.94}{11.76} = -2.38$$

$$Z_{i8} = \frac{57 - 54.94}{11.76} = 0.18$$

$$Z_i 3 = \frac{40-54.94}{11.76} = -1.27$$

$$Z_i 9 = \frac{60-54.94}{11.76} = 0.43$$

$$Z_i 4 = \frac{43-54.94}{11.76} = -1.02$$

$$Z_i 10 = \frac{63-54.94}{11.76} = 0.69$$

$$Z_i 5 = \frac{47-54.94}{11.76} = -0.68$$

$$Z_i 11 = \frac{67-54.94}{11.76} = 1.03$$

$$Z_i 6 = \frac{50-54.94}{11.76} = -0.42$$

$$Z_i 12 = \frac{70-54.94}{11.76} = 1.28$$

b) Finding S(Z_i)

$$S(Z_i) = \frac{F_{Kum}}{N}$$

$$\frac{1}{36} = 0.03$$

$$\frac{12}{36} = 0.33$$

$$\frac{2}{36} = 0.06$$

$$\frac{17}{36} = 0.47$$

$$\frac{6}{36} = 0.17$$

$$\frac{25}{36} = 0.69$$

$$\frac{7}{36} = 0.19$$

$$\frac{31}{36} = 0.86$$

$$\frac{9}{36} = 0.25$$

$$\frac{35}{36} = 0.97$$

$$\frac{10}{36} = 0.28$$

$$\frac{36}{36} = 1$$

From the above table, it can be seen that Liliefors observation or $L_0 = 0.101$ with $n = 36$ and at real level $\alpha = 0.05$ from the list of critical value of Liliefors table $L_t = 0.147$. It shows that the coefficient of L_0 (0.101) $<$ L_t (0.147). So, it can be concluded that the data distribution of the students' vocabulary mastery is **normal**.

d. Normality Testing of Post-Test in Control Group

Based on the table of frequency distribution of post-test in control group (See Appendix 11), the result of $\sum F_i(X_i^2)$ is 168165 and $\sum F_i X_i$ is 2437. Then the following is the calculation of mean, variant and standard deviation.

a) Mean

$$\bar{x} = \frac{\sum F_i X_i}{\sum F_i}$$

Where:

\bar{x} = Mean of variable x

$\sum F_i X_i$ = Total number of score

$\sum F_i$ = Number of sample

So,

$$\bar{x} = \frac{\sum F_i X_i}{\sum F_i}$$

$$\bar{x} = \frac{2437}{36}$$

$$\bar{x} = 67.69$$

b) Variant

$$S^2 = \frac{n \sum F_i X_i^2 - (\sum F_i X_i)^2}{n(n-1)}$$

Where :

S^2 = Variant

N = Number of sample

So,

$$S^2 = \frac{n \sum F_i X_i^2 - (\sum F_i X_i)^2}{n(n-1)}$$

$$S^2 = \frac{36.168165 - (2437)^2}{36(36-1)}$$

$$S^2 = \frac{6053940 - 5938969}{36(35)}$$

$$S^2 = \frac{114971}{1260}$$

$$S^2 = 91.25$$

c) **Standard Deviation**

$$S = \sqrt{S^2}$$

$$S = \sqrt{91.25}$$

$$S = 9.55$$

After getting the calculation of mean, variant and standard deviation, then the next step is to find out the normality of the test. Based on the table of normality testing of post-test in control grup (See Appendix 11), it can be calculated as follow:

a) **Finding Z score**

$$\text{Formula: } Z_i = \frac{X_i - \bar{X}}{s}$$

$$Z_i 1 = \frac{33-67.69}{9.55} = -3.63$$

$$Z_i 6 = \frac{67-67.69}{9.55} = -0.07$$

$$Z_i 2 = \frac{53-67.69}{9.55} = -1.54$$

$$Z_i 7 = \frac{70-67.69}{9.55} = 0.24$$

$$Z_i 3 = \frac{57-67.69}{9.55} = -1.12$$

$$Z_i 8 = \frac{73-67.69}{9.55} = 0.56$$

$$Z_i 4 = \frac{60-67.69}{9.55} = -0.81$$

$$Z_i 9 = \frac{77-67.69}{9.55} = 0.97$$

$$Z_i 5 = \frac{63-67.69}{9.55} = -0.49$$

$$Z_i 10 = \frac{80-67.69}{9.55} = 1.29$$

b) **Finding S(Z_i)**

$$S(Z_i) = \frac{F_{Kum}}{N}$$

$$\frac{1}{36} = 0.03 \qquad \frac{59}{36} = 0.42$$

$$\frac{3}{36} = 0.08 \qquad \frac{22}{36} = 0.61$$

$$\frac{6}{36} = 0.17 \qquad \frac{28}{36} = 0.78$$

$$\frac{8}{36} = 0.22 \qquad \frac{34}{36} = 0.94$$

$$\frac{11}{36} = 0.31 \qquad \frac{36}{36} = 1$$

From the above table, it can be seen that Liliefors observation or $L_0 = 0.055$ with $n = 36$ and at real level $\alpha = 0.05$ from the list of critical value of Liliefors table $L_t = 0.147$. It shows that the coefficient of L_0 (0.055) $<$ L_t (0.147). So, it can be concluded that the data distribution of the students' vocabulary mastery is **normal**.

d. **Homogeneity Testing**

a) **Homogeneity Testing of Pre Test**

$$\begin{aligned} F &= \frac{\text{Highest varians}}{\text{lowest varians}} \\ &= \frac{13.23}{132.70} \\ &= 1.04 \end{aligned}$$

Then the coefficient of $F_{obs} = 1.04$ is compared with F_{table} , where F_{table} is determined at real level $\alpha = 0.05$ and the numerator $df = N_1 - 1 = 36 - 1 = 35$ and the denominator $dk = N_2 - 1 = 36 - 1 = 35$. So, by using the list of critical value at F distribution was found $F_{0.05(35,35)} = 1.69$.

So $F_{\text{obs}} < F_{\text{table}}$ or $(1.04 < 1.69)$ so it can be concluded that the variance from the data was **homogenous**.

b) Homogeneity Testing of Post Test

$$F = \frac{\text{Highest varians}}{\text{lowest varians}}$$

$$= \frac{91.25}{64.14}$$

$$= 1.42$$

Then the coefficient of $F_{\text{obs}} = 1.42$ is compared with F_{table} , where F_{table} is determined at real level $\alpha = 0.05$ and the numerator $df = N_1 - 1 = 36 - 1 = 35$ and the denominator $dk = N_2 - 1 = 36 - 1 = 35$. So, by using the list of critical value at F distribution was found $F_{0.05(35,35)} = 1.69$.

So, $F_{\text{obs}} < F_{\text{table}}$ or $(1.42 < 1.69)$. It can be concluded that the variance from the data is **homogenous**.

e. Analyzing the Data by Using t-test Formula

To find out whether the use of Stirred Words and Sentences Game has significant effect on the students' vocabulary mastery, the result of the test is calculated by using t-test formula.

The formula is as follow :

$$t = \frac{Ma - Mb}{\sqrt{\left(\frac{da^2 + db^2}{Na + Nb - 2}\right)\left(\frac{1}{Na} + \frac{1}{Nb}\right)}}$$

where :

Ma = Mean of experimental group

Mb = Mean of control group

Da^2 = The standard deviation of experimental group

Db^2 = The standard deviation of control group

Na = The total sample of experimental group

Nb = Total sample of control group

a) **Experimental Class**

The calculation of mean and standard deviation of experimental class (See Appendix 12) show that :

Ma : 27.53

Da² : 3584.97

Na : 36

b) **Control Class**

The calculation of mean and standard deviation in control class (See Appendix 12) show that :

Mb : 12.75

Db² : 2486.75

Nb : 36

So, t-test can be calculated as follow :

$$t = \frac{Ma - Mb}{\sqrt{\left(\frac{da^2 + db^2}{Na + Nb - 2}\right)\left(\frac{1}{Na} + \frac{1}{Nb}\right)}}$$

$$t = \frac{27.53 - 12.75}{\sqrt{\left(\frac{3584.97 + 2486.75}{36 + 36 - 2}\right)\left(\frac{1}{36} + \frac{1}{36}\right)}}$$

$$t = \frac{14.78}{\sqrt{\left(\frac{6071.72}{70}\right)\left(\frac{2}{36}\right)}}$$

$$t = \frac{14.78}{\sqrt{(86.74)(0.06)}}$$

$$t = \frac{14.78}{\sqrt{5.20}}$$

$$t = \frac{14.78}{2.28}$$

$$t = 6.482$$

From the above calculation, the researcher used t-test formula in the significance degree (α) of 5% (0.05) and the degree of freedom (df) $(N_1 + N_2) - 2 = (36 + 36) - 2 = 70$. The result shows that the value of the $t_{\text{obs}} = 6.482 > t_{\text{tab}} = 1.994$. It means that the null hypothesis (H_0) is rejected. The result of the test clearly shows that there is a significant difference between the students' score in the experimental and control class through the treatment by using Stirred Words and Sentences Game or without the treatment.

In addition, to know how effective Stirred Words and Sentences Game on the students' vocabulary mastery, the calculation of Cohen's d formula can be seen as follows:

$$d = \frac{M1 - M2}{\left(\frac{SD1 + SD2}{2}\right)}$$

$$d = \frac{27.53 - 12.75}{\left(\frac{9.98 + 8.31}{2}\right)}$$

$$d = \frac{14.78}{\left(\frac{18.29}{2}\right)}$$

$$d = \frac{14.78}{9.14}$$

$$d = 1.617$$

The result of the calculation of "Cohen's d" formula to measure how effective Stirred Words and Sentences Game on the students'

vocabulary mastery. It shows that the effectiveness value obtained is 1.617. The criteria of the effect size is as follows:

- 0 – 0.20 : weak effect
- 0.21 – 0.50 : modest effect
- 0.51 – 1.00 : moderate effect
- > 1.00 : strong effect

Based on the criteria of the effect size, it can be said that the effect size of Stirred Words and Sentences Game on the students' vocabulary mastery is categorized into **strong effect** that means Stirred Words and Sentences Game has very large effect in developing the students' vocabulary mastery in the tenth grade students of MAS PAB 2 Helvetia.

3. Hypotheses Testing

Hypothesis testing becomes the important one because the calculation of hypothesis test is to answer the formulation of the problem in this research. the criteria of hypotheses test as follow:

1. H_a is accepted if $t_o > t_{table}$, or if the Sig. (2-tailed) < 0.05 .
2. H_0 is accepted if $t_o < t_{table}$, or if the Sig. (2-tailed) > 0.05 .

Based on the result of t-test value, it can be found that the $t_{value} = 6.482 > t_{table} = 1.994$ in the significance level of 0.05 (5%). To sum up, the $t_{value} > t_{table}$, it means that H_a is accepted. So, It can be concluded that Stirred Words and Sentences Game is effective toward students' vocabulary mastery.

B. Discussions

Based on description of data, in the tenth grade students of MAS PAB 2 Helvetia that the students' vocabulary is improved, especially by using Stirred

Words and Sentences Game. The result of data is got from test that divided into pre-test and post-test. In the description of the data which is taken from 36 students of experimental class has the mean of pre-test is 59.39 and the mean of pos-test is 86.92. So, the writer get the mean of gain score is 27.53.

Besides that, the description of the mean of the control class which is taken from 36 students is 54.94 in pre-test and the mean of post-test is 67.69. So, the writer get the mean of gain score is 12.75.

In analyzing the data, the writer analyzes the hypothesis of pre-test and post-test in both of classes. The writer analyzes by conducting T-test formula, the significant used 5% (0.05), and the criteria is value of t-test ($t_{\text{value}} > t_{\text{table}}$). Before testing the hypothesis, the writer analyzes the normality and homogeneity of the data. The result of normality test can be seen by comparing the value of $L_0 < L_t$. In analyzing the normality, it can be seen that the result of data in both pre-test and pos-test in experimental class are $L_0 = 0.023$ and $-0.02 < L_t = 0.147$. It shows that the result of both the data of pretest and post-test in experimental class are distributed normally. Then, both the data of pretest and post-test in control class are $L_0 = 0.101$ and $0.05 < L_t = 0.147$. It also shows that they are distributed normally. The next is the result of homogeneity. The result of both pre-test and post-test in experimental and control class show that $F < F_{\alpha} (n_1-1, n_2-2)$, (1.04 and $1.42 < 1.69$). It can be seen that the tests in both experiment class and control class are homogenous.

The next calculation is testing the hypothesis of the research. The writer used t-test formula in the significance degree (α) of 5%. The result showed that $t_{\text{observation}} > t_{\text{table}}$ or ($6.482 > 1.994$). It means that the null hypothesis (H_0) is

rejected and alternative hypothesis (H_a) is accepted. Therefore, it can be concluded that there is a significant difference between the students' vocabulary mastery by using Stirred Words and Sentences Game and without using Stirred Words and Sentences Game.

The last description is about the result of the calculation of "Cohen's d" formula to measure how effective Stirred Words and Sentences Game on the students' vocabulary mastery. The result shows the value is 1.617 which is categorized into strong effect. It can be concluded that, Stirred Words and Sentences Game is effective on the students' vocabulary mastery in the tenth grade students of MAS PAB 2 Helvetia.

CHAPTER V

CONCLUSION

A. Conclusion

Based on the result of the data calculation in this research, it shows that the mean of post-test in both experimental and control group are 86.92 and 67.69. The number of the students for each group is 36. The result of calculation of t-test in the significance degree (α) of 5% is $t_{\text{observed}} > t_{\text{table}} = (6.482 > 1.994)$. It means that the null hypothesis (H_0) is rejected and alternative hypothesis (H_a) is accepted.

Therefore, it can be concluded that Stirred Words and Sentences Game is effective on the students' vocabulary mastery and the effect size value obtained in this research is 1.617 which is categorized into strong effect that means Stirred Words and Sentences Game has strong effect in developing the students' vocabulary mastery in the tenth grade students of MAS PAB 2 Helvetia.

B. Suggestions

As the result of the study, the researcher would like to give some suggestions. They are as follows:

1. It is important for the teacher to improve the students' vocabulary mastery by giving attractive method with media such as Stirred Words and Sentences Game in order to encourage their motivation.
2. The teacher should use an active learning in English teaching and learning, so that students will be easy to learn vocabulary.
3. The teacher should use many types of vocabulary learning method, so that the students can learn and get the new vocabulary knowledge.

4. It hoped that the teacher teaches vocabulary from the easiest to the most difficult one. Make the students prefer English subject first by using game, so they will enjoy studying English.
5. It is necessary to another researcher implement the strategy into another language skill.

C. Implications

Implications are drawn from the research finding. The research came with a finding that there is a significant difference on the students' vocabulary mastery between students who are taught by using Stirred Words and Sentences Game and those who are taught by using conventional method. Moreover, this research implies that the use of Stirred Words and Sentences Game is needed in teaching vocabulary.

Considering the above conclusion, it implies that the use of Stirred Words and Sentences Game is capable to promote the improvement of students' vocabulary mastery in which it can be seen from the progress of the students' vocabulary scores after given the treatment using Stirred Words and Sentences Game. It is expected that the English teachers are highly recommended to utilize Stirred Words and Sentences Game on the teaching of vocabulary in order to affect students' vocabulary mastery.

Students are motivated and relaxed in learning vocabulary process when they are taught by using Stirred Words and Sentences Game. Therefore, it implies that the use of Stirred Words and Sentences Game can keep students' interest and help them to understand and to memorize the vocabulary with enjoyable situation in the classroom.

In summary, the use of Stirred Words and Sentences Game during the research can affect the students' vocabulary mastery. Therefore, the application of Stirred Words and Sentences Game needs to be applied continuously in teaching vocabulary. It is because the use of Stirred Words and Sentences Game can be an effective method to help the students practice vocabulary and to create an enthusiastic learning process, so that the standard of competence of learning process can be achieved.

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Appendix 1

Lesson Plans

LESSON PLAN (Experimental Class)

Name of School : MAS PAB 2 Helvetia
Subject : English
Class / Semester : X / I
Learning Topic : Narrative Text
Time : 2 x 45 minutes (2 Meetings)

A. The Core Competencies

- K1 : Live and practise the teachings of the religion adhered.
- K2 : Live and practice behaviors of honest, discipline, responsibility, caring (mutual, cooperative, tolerant, peaceful), polite, responsive and pro-active attitude and showing as part of the solution of various problems in interact effectively with the social and natural environments as well as in putting yourself as a reflection of the nation in association world.
- K3 : Understanding, applying, analyzing factual knowledge, conceptual, procedural based on curiosity about science, technology, art, culture, and humanities with insight into humanity, nationality and the associated civilization the cause of the phenomena and events, as well as implementing the procedural knowledge in a specific field of study in accordance with their aptitude and interest in solving problems.
- K4 : Cultivate, thinking, and provide in the realm of concrete and abstract domains associated with the development of which he had learned in

school independently, and be able to use the method according to academic rules.

B. Basic Competencies and Indicators

No.	Basic Competencies	Indicators
1.1	Thanks to the opportunity to learn English language as an international communication language of instruction embodied in the spirit of learning.	
2.1	Behave polite and caring interpersonal communication in the exercise with teachers and friends.	
2.2	Shows behaviors of honest, disciplined, confident, and responsible in performing transactional communication with teachers and friends.	
2.3	Definitive behaviors of responsibility, caring, cooperation, and peace loving, in carrying out the functional communication.	
3.1	Analyzing the social functions, the structure of the text, and linguistic elements in the narrative text of the simple folk legend in accordance with the context of their use.	<p>3.1.1 Analyze the narrative text structure of folklore.</p> <p>3.1.2 Analyze linguistic elements of folklore narrative text.</p>
4.1	Capture the meaning of oral narrative text and write a simple Legend shape.	<p>4.1.1 Catch the main idea, the meaning of the word, and dig up information about folklore narrative text.</p> <p>4.1.2 Present the main ideas and the</p>

		<p>meaning of words in writing folklore narrative text.</p> <p>4.1.3 Deduce moral (moral value) in folklore narrative text.</p>
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C. Learning Objectives

After studying this material, students are expected to:

1. Demonstrate seriousness in learning English related to the folklore narrative text.
2. Demonstrate behaviors of caring, confident and responsibility in carrying out communication related to the folklore narrative text.
3. Identify social functions, the structure of the text and linguistic elements of folklore narrative text.
4. Respond to the meaning of the text of the folklore narrative text.

D. Learning Material

1. Narrative text : The Legend of Malin Kundang.
2. Social function : To imitate the moral values, to love the fatherland, to appreciate other cultures.
3. Generic structure :
 - *Orientation*: Usually this section describes the introduction of character in the story, time/place.
 - *Complication*: Describes the early occurrence of problems and conflicts experienced by the main character.
 - *Resolution*: Describes the decline/problem resolution of a conflict.
4. Linguistic Elements:

- Related vocabulary in folklore.
- The verb/sentence structure.

E. Learning Method

Method : Stirred Words and Sentences Game.

F. Media, Tools, dan Learning Resource

1. Media : Whiteboard.
2. Tools : Boardmarker, pen, cardboard paper, glue.
3. Learning Resource : English book for 10th grade Senior High School students.

G. Learning Activity

1. Opening (10 Minutes)
 - a. The teacher greets the students.
 - b. The teacher checks the students' attendant lists.
 - c. The teacher reviews the last material and explains about the material that will be learned.

2. Main Activity (70 Minutes)

Elaboration

- a. Students listen to an example of the text of the story that explained by the teacher.
- b. Students learn new vocabulary from the story.
- c. Students learn the pronunciation of new vocabulary in the story.

Asking

- a. Students are asking for the contents of the stories from various people's stories in a group.

- b. Teacher asks students the structure of narrative text and linguistic elements of the given text.

Exploration

- a. Teacher divides students in five groups.
- b. Teacher leads students to learn narrative text by playing stirred words and sentences game.

Association

- a. Students find the vocabulary from the story.
- b. Students arrange the letter and words from the story.
- c. Teacher ensures students' vocabulary comprehension by asking to work on vocabulary exercises.

Communication

- a. Students retell the story that has been studied by their own language in writing and presenting in front of the class.

3. Closing (10 Minutes)

- a. The teacher asks the students to conclude the material.
- b. The teacher gives feedback.
- c. Teacher tells the learning plan for next meeting

H. Assessment

1. Assessment Technique

- a. Attitude Assessment

Instrument of attitude assessment

No	Name	Attitude				Note
		Responsibility	Caring	Cooperation	Peaceful	
1						
2						

3						
4						
40						

Note :

Scale of attitude assessment made with ranges between 1 to 5

- 1 : very less
- 2 : less consistent
- 3 : start consistently
- 4 : consistent
- 5 : always consistent

b. Knowledge Assessment

- Instrumen : Essay Tes (30 questions).
- Item score : 1
- Maximum score : $30 \times 1 = 30$
- Maximum assessment : 100
- Students' mark :

$$S = \frac{R}{N} \times 100$$

Where:

S = Score of the Test

R = Number of Correct Answer

N = Number of Question

Medan, 27 July 2018

Principal of MAS PAB 2 Helvetia,

Teacher,

Drs. H. M. Fauzi, M.A.

Deci Rahayu Sormin, S.Pd.

Researcher,

Nuraida Afni
NIM: 34141013

LESSON PLAN
(Control Class)

Name of School : MAS PAB 2 Helvetia
Subject : English
Class / Semester : X / I
Learning Topic : Narrative Text
Time : 2 x 45 minutes (2 Meetings)

A. The Core Competencies

- K1 : Live and practise the teachings of the religion adhered.
- K2 : Live and practice behaviors of honest, discipline, responsibility, caring (mutual, cooperative, tolerant, peaceful), polite, responsive and pro-active attitude and showing as part of the solution of various problems in interact effectively with the social and natural environments as well as in putting yourself as a reflection of the nation in association world.
- K3 : Understanding, applying, analyzing factual knowledge, conceptual, procedural based on curiosity about science, technology, art, culture, and humanities with insight into humanity, nationality and the associated civilization the cause of the phenomena and events, as well as implementing the procedural knowledge in a specific field of study in accordance with their aptitude and interest in solving problems.
- K4 : Cultivate, thinking, and provide in the realm of concrete and abstract domains associated with the development of which he had learned in school independently, and be able to use the method according to academic rules.

B. Basic Competencies and Indicators

No.	Basic Competencies	Indicator
1.1	Thanks to the opportunity to learn English language as an international communication language of instruction embodied in the spirit of learning.	
2.1	Behave polite and caring interpersonal communication in the exercise with teachers and friends.	
2.2	Shows behaviors of honest, disciplined, confident, and responsible in performing transactional communication with teachers and friends.	
2.3	Definitive behaviors of responsibility, caring, cooperation, and peace loving, in carrying out the functional communication.	
3.1	Analyzing the social functions, the structure of the text, and linguistic elements in the narrative text of the simple folk legend in accordance with the context of their use.	3.1.1 Analyze the narrative text structure of folklore. 3.1.2 Analyze linguistic elements of folklore narrative text.
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After studying this material, students are expected to:

1. Demonstrate seriousness in learning English related to the folklore narrative text.
2. Demonstrate behaviors of caring, confident and responsibility in carrying out communication related to the folklore narrative text.
3. Identify social functions, the structure of the text and linguistic elements of folklore narrative text.
4. Respond to the meaning of the text of the folklore narrative text.

D. Learning Material

1. Narrative text : Issumboshi.
2. Social function : To imitate the moral values, to love the fatherland, to appreciate other cultures.
3. Generic structure:
 - *Orientation*: Usually this section describes the introduction of character in the story, time/place.
 - *Complication*: Describes the early occurrence of problems and conflicts experienced by the main character.
 - *Resolution*: Describes the decline/problem resolution of a conflict.
5. Linguistic Elements:
 - Related vocabulary in folklore.

- The verb/sentence structure.

E. Learning Method

Method : Learning Discussion.

F. Media, Tools, dan Learning Resource

1. Media : Whiteboard.
2. Learning Resource : English book for 10th grade Senior High School students.

G. Learning Activity

1. Opening (10 Minutes)
 - a. The teacher greets the students.
 - b. The teacher checks the students' attendant lists.
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Elaboration

- a. Students listen to an example of the text of the story that explained by the teacher.
- b. Students learn new vocabulary from the story.
- c. Students learn the pronunciation of new vocabulary in the story.

Asking

- a. Students are asking for the contents of the stories from various people's stories in a group.
- b. Asking students the structure of narrative text and linguistic elements of the given text.

Exploration

- a. The teacher asks the students to read the text independently.
- b. Teacher leads students to find detailed and specific information of the story.
- c. Teacher guides the students to find structure of the narrative text presented.
- d. The teacher guides the students to find linguistic elements of the narrative text presented.

Association

- a. Students find the verb from the story.
- b. Students develop the vocabulary by making another sentence.
- c. Teacher ensures students ' vocabulary comprehension by asking to work on vocabulary exercises.

Communication

- a. Students retell the story that has been studied by their own language in writing and presenting in front of the class.
3. Closing (10 Minutes)
- a. The teacher asks the students to conclude the material.
 - b. The teacher gives feedback.
 - c. Teacher tells the learning plan for next meeting

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1. Assessment Technique
 - a. Attitude Assessment

Instrument of attitude assessment

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Note :

Scale of attitude assessment made with ranges between 1 to 5

- 1 : very less
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b. Knowledge Assessment

- Instrumen : Essay Tes (30 questions).
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- Maximum score : $30 \times 1 = 30$
- Maximum assessment : 100
- Students' mark :

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Where:

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R = Number of Correct Answer

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Medan, 27 July 2018

Principal of MAS PAB 2 Helvetia,

Teacher,

Drs. H. M. Fauzi, M.A.

Deci Rahayu Sormin, S.Pd

Researcher,

Nuraida Afni
NIM: 34141013

APPENDIX 2

Instrument of Validity Test

Name :

Class :

A. Arrange these letters to be a good word.

1. **F-H-S-I** _ _ _ _
2. **W-F-I-E** _ _ _ _
3. **T-W-O-N** _ _ _ _
4. **G-L-U-Y** _ _ _ _
5. **L-L-A-M-S** _ _ _ _ _
6. **E-N-L-A-O** _ _ _ _ _
7. **E-N-O-T-S** _ _ _ _ _
8. **W-M-O-A-N** _ _ _ _ _
9. **R-E-T-O-M-H** _ _ _ _ _
10. **R-E-B-T-T-E** _ _ _ _ _
11. **R-E-S-T-F-O** _ _ _ _ _
12. **C-H-I-D-L** _ _ _ _ _
13. **T-E-C-U** _ _ _ _
14. **C-E-R-I** _ _ _ _
15. **C-I-Y-T** _ _ _ _
16. **S-T-R-G-N-O** _ _ _ _ _
17. **S-E-P-L-E-A** _ _ _ _ _
18. **H-A-M-R-E-M** _ _ _ _ _
19. **G-N-Y-U-O** _ _ _ _

- | | |
|----------------------------|-----------------|
| 20. P-R-I-S-S-C-E-N | — — — — — — — — |
| 21. S-N-L-A-I | — — — — — |
| 22. S-O-M-E-H-N-A-D | — — — — — — — — |
| 23. D-E-N-L-G-O | — — — — — — |
| 24. A-S-E | — — — |
| 25. D-O-O-F | — — — — |
| 26. L-G-R-I | — — — — |
| 27. E-E-N-Q-U | — — — — — |
| 28. P-P-H-A-Y | — — — — — |
| 29. C-U-S-I-R-O-U | — — — — — — — |
| 30. S-E-H-U-O | — — — — — |
| 31. G-N-K-I | — — — — |
| 32. S-E-W-I | — — — — |
| 33. P-L-E-C-U-O | — — — — — — |
| 34. G-L-E-J-N-U | — — — — — — |
| 35. T-T-L-I-L-E | — — — — — — |
| 36. R-E-A-M-D | — — — — — |
| 37. L-A-C-E-N-K-C-E | — — — — — — — — |
| 38. D-A-Y-B-R-I-T-H | — — — — — — — — |
| 39. T-T-Y-R-P-E | — — — — — — |
| 40. O-U-R-C-O-L | — — — — — — |
| 41. F-R-A-A-I-D | — — — — — — |
| 42. R-E-T-M-N-S-O | — — — — — — — |
| 43. V-E-L-O | — — — — |

44. **O-U-S-F-M-A** _ _ _ _ _
45. **G-E-L-A-N** _ _ _ _ _
46. **R-Y-A-N-G** _ _ _ _ _
47. **D-E-A-I** _ _ _ _
48. **P-L-E-T-M-E** _ _ _ _ _
49. **M-R-O-N-G-N-I** _ _ _ _ _
50. **P-W-E-O-R** _ _ _ _ _

B. Arrange these words to be a good sentences.

1. Near/ village / the / beach / small.
2. Passed / his / father / has / away.
3. Merchant / Malin Kundang / helped / the.
4. Mother / his / left / he / alone.
5. Huge / he / had / ship / a.
6. A / he / was / beautiful / married / woman.
7. She / to / wanted / him / hug.
8. He / not / apologize / did / her / to.
9. Stone / he / had / into / turned / a.
10. Was / she / mother / his.
11. Will / I / back / come.
12. Princess / Issumboshi / the / liked.
13. Grow / began / to / Issumboshi.
14. Have / saved / you / my / life.
15. Is / hammer / magic / this / the.
16. Couple / was / there / an / old.

17. Fencing / practiced / Issumboshi / hard / very.
18. Wind / strong / there / a / was.
19. Her / Issumboshi / help / to / tried.
20. They / happily / ever / after / lived.
21. Dewi Candra Kirana / to / was / engaged / prince / the.
22. Found / Keong Emas / was / an / by / woman / old.
23. The / went / sea / woman / in / the / fishing.
24. Went / she / sadly / home.
25. A / beautiful / very / saw / she / girl.
26. Old / woman / a / had / power / supranatural / the.
27. An / saw / he / woman / old.
28. Ran / Galuh Ajeng / woods / the / to.
29. They / happy / see / were / each / to / other.
30. By / a / witch / Candra Kirana / cursed / has.
31. Kingdom / the / by / ruled / was / king / a.
32. Happy / it / was / condition / a / very.
33. Very / queen / sad / was / the.
34. The / he / jungle / went / to.
35. Dream / his / true / came.
36. Beautiful / the / princess / more / grew.
37. To / you / give / I / necklace / this.
38. Don't / I / accept / want / to / it.
39. The / full / is / colours / lake / of.
40. Beautiful / the / necklace / broken / was.

41. Lived / a / very / there / king / powerful.
42. Giant / monster / looked / like / he / a.
43. Daughter / had / a / beautiful / very / Prabu Baka.
44. I / return / will / victory / with.
45. He / Roro Jonggrang / at / palace / saw / the.
46. Are / you / beautiful / so.
47. Want / I / to / your / voice / hear.
48. Marry / want / I / to / you.
49. Bondowoso / to / tried / himself / complete / work / the / by.
50. Became / thousand / she / temple / the.

APPENDIX 3

Instrument of Pre-Test and Post-Test

Name :

Class :

A. Arrange these letters to be a good word.

- | | | | | | | | | |
|-----|------------------------|---|---|---|---|---|---|---|
| 1. | W-F-I-E | — | — | — | — | | | |
| 2. | T-W-O-N | — | — | — | — | | | |
| 3. | G-N-Y-U-O | — | — | — | — | — | | |
| 4. | P-I-R-S-S-C-E-N | — | — | — | — | — | — | — |
| 5. | S-E-M-O-H-N-A-D | — | — | — | — | — | — | — |
| 6. | G-L-O-N-E-D | — | — | — | — | — | — | |
| 7. | F-D-O-O | — | — | — | — | | | |
| 8. | P-P-H-A-Y | — | — | — | — | — | | |
| 9. | S-E-H-U-O | — | — | — | — | — | | |
| 10. | C-O-P-E-U-L | — | — | — | — | — | — | |
| 11. | J-N-G-L-U-E | — | — | — | — | — | — | |
| 12. | B-T-H-D-A-Y-I-R | — | — | — | — | — | — | — |
| 13. | P-R-T-T-Y-E | — | — | — | — | — | — | |
| 14. | C-L-O-R-U-O | — | — | — | — | — | — | |
| 15. | A-I-D-F-R-A | — | — | — | — | — | — | |

B. Arrange these words to be a good sentences.

1. He / not / apologize / did / her / to.

2. Stone / he / had / into / turned / a.

3. Was / she / mother / his.

4. Princess / the / Issumboshi / liked.

5. Grow / to / began / Issumboshi.

6. Found / Keong Emas / was / an / by / woman / old.

7. Went / she / sadly / home.

8. They / happy / see / were / each / to / other.

9. By / witch / has / Candra Kirana / cursed / a.

10. Kingdom / the / by / ruled / was / king / a.

11. Beautiful / the / princess / more / grew.

12. He / a / giant / looked / monster / like.

13. Beautiful / you / so / are.

14. Want / hear / I / voice / your / to.

15. To / want / marry / you / I.

APPENDIX 4

Answer Keys

Answer key A					
1	Wife	6	Golden	11	Jungle
2	Town	7	Food	12	Birthday
3	Young	8	Happy	13	Pretty
4	Princess	9	House	14	Colour
5	Handsome	10	Couple	15	Afraid

Answer key B	
1	He did not apologize to her.
2	He had turned into a stone.
3	She was his mother.
4	The princess liked Issumboshi.
5	Issumboshi began to grow.
6	Keong Emas was found by an old woman.
7	She went home sadly.
8	They were happy to see each other.
9	Candra Kirana has cursed by a witch.
10	The kingdom was ruled by a king.
11	The princess grew more beautiful.
12	He looked like a giant monster.
13	You are so beautiful.
14	I want to hear your voice.
15	I want to marry you.

APPENDIX 5

a. The Result of Students' Pre-test and Post-test in Experimental Class

No	Student's Initial	Pre-test	Post-test	Gained Score
1	AU	60	90	30
2	AD	63	90	27
3	AS	33	70	37
4	CM	73	97	24
5	DS	63	93	30
6	DA	70	90	20
7	DS	60	83	23
8	DP	47	77	30
9	ED	73	83	10
10	EF	70	97	27
11	FL	63	77	14
12	FN	40	80	40
13	FA	50	83	33
14	GH	43	90	47
15	GB	50	87	37
16	KW	80	87	7
17	MF	60	90	30
18	FR	70	77	7
19	MI	53	93	40
20	MS	70	87	17
21	MN	63	100	37
22	MA	53	90	37
23	MF	47	87	40
24	NI	63	97	34
25	NS	67	93	26
26	NH	57	77	20
27	ND	47	83	36
28	NY	63	100	37

29	PA	50	80	30
30	PR	77	87	10
31	RR	70	90	20
32	RP	50	80	30
33	SK	43	67	24
34	SN	77	97	20
35	SM	57	93	36
36	WK	63	87	24
	Total (Σ)	2138	3129	991
	Mean	59.39	86.92	27.53

b. The Result of Students' Pre-test and Post-test in Control Class

No	Student's Initial	Pre-test	Post-test	Gained Score
1	AP	17	63	46
2	AT	60	70	10
3	AK	53	67	14
4	AA	67	70	3
5	AR	60	70	10
6	AM	63	73	10
7	AN	60	70	10
8	FS	53	57	4
9	FA	63	70	7
10	HA	57	60	3
11	HG	40	63	23
12	HR	60	67	7
13	IS	47	70	23
14	IU	40	63	23
15	JS	63	73	10
16	KS	27	33	6
17	LH	60	77	17
18	MD	43	67	24

19	MT	57	73	16
20	MR	60	77	17
21	NS	67	73	6
22	NA	60	80	20
23	NU	67	80	13
24	RP	67	77	10
25	RS	57	70	13
26	RA	57	57	0
27	SK	63	73	10
28	SM	40	60	20
29	SY	60	73	13
30	SA	47	57	10
31	SD	63	77	14
32	TF	63	77	14
33	TN	70	77	7
34	TP	57	67	10
35	YA	50	53	3
36	ZA	40	53	13
	Total (Σ)	1978	2437	459
	Mean	54.94	67.69	12.75

APPENDIX 6

a. Students' Classification Score of Pre-Test in Experimental Class

Student's Initial	Number of Items	Number of Correct Answer	Score	Classification
AU	30	18	60	Failure
AD	30	19	63	Poor
AS	30	10	33	Failure
CM	30	22	73	Good
DS	30	19	63	Poor
DA	30	21	70	Poor
DS	30	18	60	Failure
DP	30	14	47	Failure
ED	30	22	73	Good
EF	30	21	70	Poor
FL	30	19	63	Poor
FN	30	12	40	Failure
FA	30	15	50	Failure
GH	30	13	43	Failure
GB	30	15	50	Failure
KW	30	24	80	Good
MF	30	18	60	Failure
FR	30	21	70	Poor
MI	30	16	53	Failure
MS	30	21	70	Poor
MN	30	19	63	Poor
MA	30	16	53	Failure
MF	30	14	47	Failure
NI	30	19	63	Poor
NS	30	20	67	Poor
NH	30	17	57	Failure

ND	30	14	47	Failure
NY	30	19	63	Poor
PA	30	15	50	Failure
PR	30	23	77	Good
RR	30	21	70	Poor
RP	30	15	50	Failure
SK	30	13	43	Failure
SN	30	23	77	Good
SM	30	17	57	Failure
WK	30	19	63	Poor
Total		642	2138	

b. Students' Classification Score of Pre-Test in Control Class

Student's Initial	Number of Items	Number of Correct Answer	Score	Classification
AP	30	5	17	Failure
AT	30	18	60	Failure
AK	30	16	53	Failure
AA	30	20	67	Poor
AR	30	18	60	Failure
AM	30	19	63	Poor
AN	30	18	60	Failure
FS	30	16	53	Failure
FA	30	19	63	Poor
HA	30	17	57	Failure
HG	30	12	40	Failure
HR	30	18	60	Failure
IS	30	14	47	Failure
IU	30	12	40	Failure
JS	30	19	63	Poor
KS	30	8	27	Failure

LH	30	18	60	Poor
MD	30	13	43	Failure
MT	30	17	57	Failure
MR	30	18	60	Failure
NS	30	20	67	Poor
NA	30	18	60	Failure
NU	30	20	67	Poor
RP	30	20	67	Poor
RS	30	17	57	Failure
RA	30	17	57	Failure
SK	30	19	63	Poor
SM	30	12	40	Failure
SY	30	18	60	Failure
SA	30	14	47	Failure
SD	30	19	63	Poor
TF	30	19	63	Poor
TN	30	21	70	Poor
TP	30	17	57	Failure
YA	30	15	50	Failure
ZA	30	12	40	Failure
Total		593	1978	

APPENDIX 7

a. Students' Classification Score of Post-Test in Experimental Class

Student's Initial	Number of Items	Number of Correct Answer	Score	Classification
AU	30	27	90	Very Good
AD	30	27	90	Very Good
AS	30	21	70	Poor
CM	30	29	97	Excellent
DS	30	28	93	Excellent
DA	30	27	90	Very Good
DS	30	25	83	Very Good
DP	30	23	77	Good
ED	30	25	83	Very Good
EF	30	29	97	Excellent
FL	30	23	77	Good
FN	30	24	80	Good
FA	30	25	83	Very Good
GH	30	27	90	Very Good
GB	30	26	87	Very Good
KW	30	26	87	Very Good
MF	30	27	90	Very Good
FR	30	23	77	Good
MI	30	28	93	Excellent
MS	30	26	87	Very Good
MN	30	30	100	Excellent
MA	30	27	90	Very Good
MF	30	26	87	Very Good
NI	30	29	97	Excellent
NS	30	28	93	Excellent
NH	30	23	77	Good

ND	30	25	83	Very Good
NY	30	30	100	Excellent
PA	30	24	80	Good
PR	30	26	87	Very Good
RR	30	27	90	Very Good
RP	30	24	80	Good
SK	30	20	67	Poor
SN	30	29	97	Excellent
SM	30	28	93	Excellent
WK	30	26	87	Very Good
Total		938	3129	

b. Students' Classification Score of Post-Test in Control Class

Student's Initial	Number of Items	Number of Correct Answer	Score	Classification
AP	30	19	63	Poor
AT	30	21	70	Poor
AK	30	20	67	Poor
AA	30	21	70	Poor
AR	30	21	70	Poor
AM	30	22	73	Good
AN	30	21	70	Poor
FS	30	17	57	Failure
FA	30	21	70	Poor
HA	30	18	60	Failure
HG	30	19	63	Poor
HR	30	20	67	Poor
IS	30	21	70	Poor
IU	30	19	63	Poor
JS	30	22	73	Good
KS	30	10	33	Failure

LH	30	23	77	Good
MD	30	20	67	Poor
MT	30	22	73	Good
MR	30	23	77	Good
NS	30	22	73	Good
NA	30	24	80	Good
NU	30	24	80	Good
RP	30	23	77	Good
RS	30	21	70	Good
RA	30	17	57	Failure
SK	30	22	73	Good
SM	30	18	60	Failure
SY	30	22	73	Good
SA	30	17	57	Failure
SD	30	23	77	Good
TF	30	23	77	Good
TN	30	23	77	Good
TP	30	20	67	Poor
YA	30	16	53	Failure
ZA	30	16	53	Failure
Total		731	2437	

The Classification of Score

Classification	Score
Excellent	91 – 100
Very Good	81 – 90
Good	71 – 80
Poor	61 – 70
Failure	Less than 60

APPENDIX 8

TheTable of Validity ofthe Test

[illegible]

[illegible]

APPENDIX 9

TheTable of Reliability ofthe Test

[illegible]

APPENDIX 10

Normality Testing of Pre-Test and Post-Test in Experimental Group

a. Frequency Distribution of Pre-Test in Experimental Group

No	X_i	F_i	$F_i X_i$	X_i^2	$F_i(X_i^2)$
1	33	1	33	1089	1089
2	40	1	40	1600	1600
3	43	2	86	1849	3698
4	47	3	141	2209	6627
5	50	4	200	2500	10000
6	53	2	106	2809	5618
7	57	2	114	3249	6498
8	60	3	180	3600	10800
9	63	7	441	3969	27783
10	67	1	67	4489	4489
11	70	5	350	4900	24500
12	73	2	146	5329	10658
13	77	2	154	5929	11858
14	80	1	80	6400	6400
Total		36	2138	49921	131618

b. Normality Testing of Pre Test in Experimental Group

No	Score	Z_i	$F(z_i)$	$S(Z_i)$	$F(Z_i)-S(Z_i)$
1	33	-2,291	0,011	0,03	-0,017
2	40	-1,683	0,046	0,06	-0,009
3	43	-1,423	0,077	0,11	-0,034
4	43	-1,423	0,077	0,11	-0,034
5	47	-1,076	0,141	0,19	-0,053
6	47	-1,076	0,141	0,19	-0,053
7	47	-1,076	0,141	0,19	-0,053
8	50	-0,815	0,207	0,31	-0,098
9	50	-0,815	0,207	0,31	-0,098
10	50	-0,815	0,207	0,31	-0,098
11	50	-0,815	0,207	0,31	-0,098
12	53	-0,555	0,290	0,36	-0,072
13	53	-0,555	0,290	0,36	-0,072
14	57	-0,207	0,418	0,42	0,001
15	57	-0,207	0,418	0,42	0,001
16	60	0,053	0,521	0,50	0,021

17	60	0,053	0,521	0,50	0,021
18	60	0,053	0,521	0,50	0,021
19	63	0,313	0,623	0,69	-0,071
20	63	0,313	0,623	0,69	-0,071
21	63	0,313	0,623	0,69	-0,071
22	63	0,313	0,623	0,69	-0,071
23	63	0,313	0,623	0,69	-0,071
24	63	0,313	0,623	0,69	-0,071
25	63	0,313	0,623	0,69	-0,071
26	67	0,661	0,746	0,72	0,023
27	70	0,921	0,821	0,86	-0,040
28	70	0,921	0,821	0,86	-0,040
29	70	0,921	0,821	0,86	-0,040
30	70	0,921	0,821	0,86	-0,040
31	70	0,921	0,821	0,86	-0,040
32	73	1,182	0,881	0,92	-0,035
33	73	1,182	0,881	0,92	-0,035
34	77	1,529	0,937	0,97	-0,035
35	77	1,529	0,937	0,97	-0,035
36	80	1,789	0,963	1,00	-0,037
Total	2138	$L_0 = 0.023$			
Mean	59.39	$L_t = 0.147$			

c. Frequency Distribution of Post-Test in Experimental Group

No	X_i	F_i	$F_i X_i$	X_i^2	$F_i(X_i^2)$
1	67	1	67	4489	4489
2	70	1	70	4900	4900
3	77	4	308	5929	23716
4	80	3	240	6400	19200
5	83	4	332	6889	27556
6	87	6	522	7569	45414
7	90	7	630	8100	56700
8	93	4	372	8649	34596
9	97	4	388	9409	37636
10	100	2	200	10000	20000
Total		36	3129	72334	274207

d. Normality Testing of Post-Test in Experimental Group

No	Score	Zi	F(zi)	S(Zi)	F(Zi)-S(Zi)
1	67	-2,49	0,006	0,03	-0,021
2	70	-2,12	0,017	0,06	-0,038
3	77	-1,24	0,107	0,17	-0,059
4	77	-1,24	0,107	0,17	-0,059
5	77	-1,24	0,107	0,17	-0,059
6	77	-1,24	0,107	0,17	-0,059
7	80	-0,87	0,194	0,25	-0,056
8	80	-0,87	0,194	0,25	-0,056
9	80	-0,87	0,194	0,25	-0,056
10	83	-0,49	0,312	0,36	-0,049
11	83	-0,49	0,312	0,36	-0,049
12	83	-0,49	0,312	0,36	-0,049
13	83	-0,49	0,312	0,36	-0,049
14	87	0,01	0,504	0,53	-0,024
15	87	0,01	0,504	0,53	-0,024
16	87	0,01	0,504	0,53	-0,024
17	87	0,01	0,504	0,53	-0,024
18	87	0,01	0,504	0,53	-0,024
19	87	0,01	0,504	0,53	-0,024
20	90	0,39	0,650	0,72	-0,072
21	90	0,39	0,650	0,72	-0,072
22	90	0,39	0,650	0,72	-0,072
23	90	0,39	0,650	0,72	-0,072
24	90	0,39	0,650	0,72	-0,072
25	90	0,39	0,650	0,72	-0,072
26	90	0,39	0,650	0,72	-0,072
27	93	0,76	0,776	0,83	-0,057
28	93	0,76	0,776	0,83	-0,057
29	93	0,76	0,776	0,83	-0,057
30	93	0,76	0,776	0,83	-0,057
31	97	1,26	0,896	0,94	-0,048
32	97	1,26	0,896	0,94	-0,048
33	97	1,26	0,896	0,94	-0,048
34	97	1,26	0,896	0,94	-0,048
35	100	1,64	0,949	1,00	-0,051
36	100	1,64	0,949	1,00	-0,051
Total	3129	L₀= -0.021			
Mean	86.92	L_t= 0.147			

APPENDIX 11

Normality Testing of Pre-Test and Post-Test in Control Group

a. Frequency Distribution of Pre-Test in Control Group

No	X_i	F_i	$F_i X_i$	X_i^2	$F_i(X_i^2)$
1	17	1	17	289	289
2	27	1	27	729	729
3	40	4	160	1600	6400
4	43	1	43	1849	1849
5	47	2	94	2209	4418
6	50	1	50	2500	2500
7	53	2	106	2809	5618
8	57	5	285	3249	16245
9	60	8	480	3600	28800
10	63	6	378	3969	23814
11	67	4	268	4489	17956
12	70	1	70	4900	4900
Total		36	1978	32192	113518

b. Normality Testing of Pre-Test in Control Group

No	Score	Z_i	$F(z_i)$	$S(Z_i)$	$F(Z_i)-S(Z_i)$
1	17	-3,23	0,001	0,03	-0,027
2	27	-2,38	0,009	0,06	-0,047
3	40	-1,27	0,102	0,17	-0,065
4	40	-1,27	0,102	0,17	-0,065
5	40	-1,27	0,102	0,17	-0,065
6	40	-1,27	0,102	0,17	-0,065
7	43	-1,02	0,155	0,19	-0,040
8	47	-0,68	0,250	0,25	0,000
9	47	-0,68	0,250	0,25	0,000
10	50	-0,42	0,337	0,28	0,059
11	53	-0,17	0,434	0,33	0,101
12	53	-0,17	0,434	0,33	0,101
13	57	0,18	0,570	0,47	0,097
14	57	0,18	0,570	0,47	0,097
15	57	0,18	0,570	0,47	0,097
16	57	0,18	0,570	0,47	0,097
17	57	0,18	0,570	0,47	0,097
18	60	0,43	0,667	0,69	-0,028

19	60	0,43	0,667	0,69	-0,028
20	60	0,43	0,667	0,69	-0,028
21	60	0,43	0,667	0,69	-0,028
22	60	0,43	0,667	0,69	-0,028
23	60	0,43	0,667	0,69	-0,028
24	60	0,43	0,667	0,69	-0,028
25	60	0,43	0,667	0,69	-0,028
26	63	0,69	0,754	0,86	-0,108
27	63	0,69	0,754	0,86	-0,108
28	63	0,69	0,754	0,86	-0,108
29	63	0,69	0,754	0,86	-0,108
30	63	0,69	0,754	0,86	-0,108
31	63	0,69	0,754	0,86	-0,108
32	67	1,03	0,848	0,97	-0,125
33	67	1,03	0,848	0,97	-0,125
34	67	1,03	0,848	0,97	-0,125
35	67	1,03	0,848	0,97	-0,125
36	70	1,28	0,900	1,00	-0,100
Total	1978	$L_0 = 0.101$			
Mean	54.94	$L_t = 0.147$			

c. Frequency Distribution of Post-Test in Control Group

No.	X_i	F_i	$F_i X_i$	X_i^2	$F_i(X_i^2)$
1	33	1	33	1089	1089
2	53	2	106	2809	5618
3	57	3	171	3249	9747
4	60	2	120	3600	7200
5	63	3	189	3969	11907
6	67	4	268	4489	17956
7	70	7	490	4900	34300
8	73	6	438	5329	31974
9	77	6	462	5929	35574
10	80	2	160	6400	12800
Total		36	2437	41763	168165

d. Normality Testing of Post-Test in Control Group

No	Score	Z_i	$F(z_i)$	$S(Z_i)$	$F(Z_i)-S(Z_i)$
1	33	-3,63	0,0001	0,03	-0,028
2	53	-1,54	0,0620	0,08	-0,021

3	53	-1,54	0,0620	0,08	-0,021
4	57	-1,12	0,1315	0,17	-0,035
5	57	-1,12	0,1315	0,17	-0,035
6	57	-1,12	0,1315	0,17	-0,035
7	60	-0,81	0,2104	0,22	-0,012
8	60	-0,81	0,2104	0,22	-0,012
9	63	-0,49	0,3117	0,31	0,006
10	63	-0,49	0,3117	0,31	0,006
11	63	-0,49	0,3117	0,31	0,006
12	67	-0,07	0,4712	0,42	0,055
13	67	-0,07	0,4712	0,42	0,055
14	67	-0,07	0,4712	0,42	0,055
15	67	-0,07	0,4712	0,42	0,055
16	70	0,24	0,5955	0,61	-0,016
17	70	0,24	0,5955	0,61	-0,016
18	70	0,24	0,5955	0,61	-0,016
19	70	0,24	0,5955	0,61	-0,016
20	70	0,24	0,5955	0,61	-0,016
21	70	0,24	0,5955	0,61	-0,016
22	70	0,24	0,5955	0,61	-0,016
23	73	0,56	0,7109	0,78	-0,067
24	73	0,56	0,7109	0,78	-0,067
25	73	0,56	0,7109	0,78	-0,067
26	73	0,56	0,7109	0,78	-0,067
27	73	0,56	0,7109	0,78	-0,067
28	73	0,56	0,7109	0,78	-0,067
29	77	0,97	0,8351	0,94	-0,109
30	77	0,97	0,8351	0,94	-0,109
31	77	0,97	0,8351	0,94	-0,109
32	77	0,97	0,8351	0,94	-0,109
33	77	0,97	0,8351	0,94	-0,109
34	77	0,97	0,8351	0,94	-0,109
35	80	1,29	0,9013	1,00	-0,099
36	80	1,29	0,9013	1,00	-0,099
Total	2437	L₀ = 0.055			
Mean	67.69	L_t = 0.147			

APPENDIX 12

The Calculation of Mean and Standard Deviation by Control Group and Experimental Group

a. Experimental Group

No	Student's Initial	Pre-test (T1)	Post-test (T2)	T2-T1 (d)	d-Ma	Da ²
1	AU	60	90	30	-2	6,1
2	AD	63	90	27	1	0,3
3	AS	33	70	37	-9	89,7
4	CM	73	97	24	4	12,4
5	DS	63	93	30	-2	6,1
6	DA	70	90	20	8	56,7
7	DS	60	83	23	5	20,5
8	DP	47	77	30	-2	6,1
9	ED	73	83	10	18	307,2
10	EF	70	97	27	1	0,3
11	FL	63	77	14	14	183,0
12	FN	40	80	40	-12	155,6
13	FA	50	83	33	-5	29,9
14	GH	43	90	47	-19	379,2
15	GB	50	87	37	-9	89,7
16	KW	80	87	7	21	421,4
17	MF	60	90	30	-2	6,1
18	FR	70	77	7	21	421,4
19	MI	53	93	40	-12	155,6
20	MS	70	87	17	11	110,8
21	MN	63	100	37	-9	89,7
22	MA	53	90	37	-9	89,7
23	MF	47	87	40	-12	155,6
24	NI	63	97	34	-6	41,9
25	NS	67	93	26	2	2,3

26	NH	57	77	20	8	56,7
27	ND	47	83	36	-8	71,8
28	NY	63	100	37	-9	89,7
29	PA	50	80	30	-2	6,1
30	PR	77	87	10	18	307,2
31	RR	70	90	20	8	56,7
32	RP	50	80	30	-2	6,1
33	SK	43	67	24	4	12,4
34	SN	77	97	20	8	56,7
35	SM	57	93	36	-8	71,8
36	WK	63	87	24	4	12,4
Total (Σ)		2138	3129	991		3585
Mean		59.39	86.92	27.53		

b. Control Group

No	Student's Initial	Pre-test (T1)	Post-test (T2)	T2-T1 (d)	d-Mb	Db2
1	AP	17	63	46	-33,3	1105,6
2	AT	60	70	10	2,8	7,6
3	AK	53	67	14	-1,3	1,6
4	AA	67	70	3	9,8	95,1
5	AR	60	70	10	2,8	7,6
6	AM	63	73	10	2,8	7,6
7	AN	60	70	10	2,8	7,6
8	FS	53	57	4	8,8	76,6
9	FA	63	70	7	5,8	33,1
10	HA	57	60	3	9,8	95,1
11	HG	40	63	23	-10,3	105,1
12	HR	60	67	7	5,8	33,1
13	IS	47	70	23	-10,3	105,1
14	IU	40	63	23	-10,3	105,1
15	JS	63	73	10	2,8	7,6
16	KS	27	33	6	6,8	45,6
17	LH	60	77	17	-4,3	18,1
18	MD	43	67	24	-11,3	126,6
19	MT	57	73	16	-3,3	10,6
20	MR	60	77	17	-4,3	18,1
21	NS	67	73	6	6,8	45,6

22	NA	60	80	20	-7,3	52,6
23	NU	67	80	13	-0,3	0,1
24	RP	67	77	10	2,8	7,6
25	RS	57	70	13	-0,3	0,1
26	RA	57	57	0	12,8	162,6
27	SK	63	73	10	2,8	7,6
28	SM	40	60	20	-7,3	52,6
29	SY	60	73	13	-0,3	0,1
30	SA	47	57	10	2,8	7,6
31	SD	63	77	14	-1,3	1,6
32	TF	63	77	14	-1,3	1,6
33	TN	70	77	7	5,8	33,1
34	TP	57	67	10	2,8	7,6
35	YA	50	53	3	9,8	95,1
36	ZA	40	53	13	-0,3	0,1
Total (Σ)		1978	2437	459		2487
Mean		54.94	67.69	12.75		

APPENDIX 13

Table of r Distribution

n	Taraf Signifikan		n	Taraf Signifikan		n	Taraf Signifikan	
	5%	1%		5%	1%		5%	1%
3	0,997	0,999	27	0,381	0,487	55	0,266	0,345
4	0,950	0,990	28	0,374	0,478	60	0,254	0,330
5	0,878	0,959	29	0,367	0,470	65	0,244	0,317
6	0,811	0,917	30	0,361	0,463	70	0,235	0,306
7	0,754	0,874	31	0,355	0,456	75	0,227	0,296
8	0,707	0,834	32	0,349	0,449	80	0,220	0,286
9	0,666	0,798	33	0,344	0,442	85	0,213	0,278
10	0,632	0,765	34	0,339	0,436	90	0,207	0,270
11	0,602	0,735	35	0,334	0,430	95	0,202	0,263
12	0,576	0,708	36	0,329	0,424	10	0,195	0,256
13	0,553	0,684	37	0,325	0,418	12	0,176	0,230
14	0,532	0,661	38	0,320	0,413	15	0,159	0,210
15	0,514	0,641	39	0,316	0,408	17	0,148	0,194
16	0,497	0,623	40	0,312	0,403	20	0,138	0,181
17	0,482	0,606	41	0,308	0,398	30	0,113	0,148
18	0,468	0,590	42	0,304	0,393	40	0,098	0,128
19	0,456	0,575	43	0,301	0,389	50	0,088	0,115
20	0,444	0,561	44	0,297	0,384	60	0,080	0,105
21	0,433	0,549	45	0,294	0,380	700	0,074	0,097
22	0,423	0,537	46	0,291	0,376	800	0,070	0,091
23	0,413	0,526	47	0,288	0,372	900	0,065	0,086
24	0,404	0,515	48	0,284	0,368	1000	0,062	0,081
25	0,396	0,505	49	0,281	0,364			
26	0,388	0,496	50	0,279	0,361			

Source: Sudjana. 2005. *Metoda Statistika*. Bandung: Tarsito. p. 492

APPENDIX 14

Tabel Wilayah Luas di Bawah Kurva Normal 0 ke z

z	0,00	0,01	0,02	0,03	0,04	0,05	0,06	0,07	0,08	0,09
-3,4	0,0003	0,0003	0,0003	0,0003	0,0003	0,0003	0,0003	0,0003	0,0003	0,0002
-3,3	0,0005	0,0005	0,0005	0,0004	0,0004	0,0004	0,0004	0,0004	0,0004	0,0003
-3,2	0,0007	0,0007	0,0006	0,0006	0,0006	0,0006	0,0006	0,0005	0,0005	0,0005
-3,1	0,0010	0,0009	0,0009	0,0009	0,0008	0,0008	0,0008	0,0008	0,0007	0,0007
-3,0	0,0013	0,0013	0,0013	0,0012	0,0012	0,0011	0,0011	0,0011	0,0010	0,0010
-2,9	0,0019	0,0018	0,0018	0,0017	0,0016	0,0016	0,0015	0,0015	0,0014	0,0014
-2,8	0,0026	0,0025	0,0024	0,0023	0,0023	0,0022	0,0021	0,0021	0,0020	0,0019
-2,7	0,0035	0,0034	0,0033	0,0032	0,0031	0,0030	0,0029	0,0028	0,0027	0,0026
-2,6	0,0047	0,0045	0,0044	0,0043	0,0041	0,0040	0,0039	0,0038	0,0037	0,0036
-2,5	0,0062	0,0060	0,0059	0,0057	0,0055	0,0054	0,0052	0,0051	0,0049	0,0048
-2,4	0,0082	0,0080	0,0078	0,0075	0,0073	0,0071	0,0069	0,0068	0,0066	0,0064
-2,3	0,0107	0,0104	0,0102	0,0099	0,0096	0,0094	0,0091	0,0089	0,0087	0,0084
-2,2	0,0139	0,0136	0,0132	0,0129	0,0125	0,0122	0,0119	0,0116	0,0113	0,0110
-2,1	0,0179	0,0174	0,0170	0,0166	0,0162	0,0158	0,0154	0,0150	0,0146	0,0143
-2,0	0,0228	0,0222	0,0217	0,0212	0,0207	0,0202	0,0197	0,0192	0,0188	0,0183
-1,9	0,0287	0,0281	0,0274	0,0268	0,0262	0,0256	0,0250	0,0244	0,0239	0,0233
-1,8	0,0359	0,0351	0,0344	0,0336	0,0329	0,0322	0,0314	0,0307	0,0301	0,0294
-1,7	0,0446	0,0436	0,0427	0,0418	0,0409	0,0401	0,0392	0,0384	0,0375	0,0367
-1,6	0,0548	0,0537	0,0526	0,0516	0,0505	0,0495	0,0485	0,0475	0,0465	0,0455
-1,5	0,0668	0,0655	0,0643	0,0630	0,0618	0,0606	0,0594	0,0582	0,0571	0,0559
-1,4	0,0808	0,0793	0,0778	0,0764	0,0749	0,0735	0,0720	0,0708	0,0694	0,0681
-1,3	0,0968	0,0951	0,0934	0,0918	0,0901	0,0885	0,0869	0,0853	0,0838	0,0823
-1,2	0,1151	0,1131	0,1112	0,1093	0,1075	0,1056	0,1038	0,1020	0,1003	0,0985
-1,1	0,1358	0,1335	0,1314	0,1292	0,1271	0,1251	0,1230	0,1210	0,1190	0,1170
-1,0	0,1587	0,1562	0,1539	0,1515	0,1492	0,1469	0,1446	0,1423	0,1401	0,1379
-0,9	0,1841	0,1814	0,1788	0,1762	0,1736	0,1711	0,1685	0,1660	0,1635	0,1611
-0,8	0,2119	0,2090	0,2061	0,2033	0,2004	0,1977	0,1949	0,1922	0,1894	0,1867
-0,7	0,2420	0,2388	0,2358	0,2327	0,2296	0,2266	0,2236	0,2206	0,2177	0,2148
-0,6	0,2742	0,2709	0,2676	0,2643	0,2611	0,2578	0,2546	0,2514	0,2482	0,2451
-0,5	0,3085	0,3050	0,3015	0,2981	0,2946	0,2912	0,2877	0,2843	0,2810	0,2776
-0,4	0,3446	0,3409	0,3372	0,3336	0,3300	0,3264	0,3228	0,3192	0,3156	0,3121
-0,3	0,3821	0,3783	0,3745	0,3707	0,3669	0,3632	0,3594	0,3557	0,3520	0,3483
-0,2	0,4207	0,4168	0,4129	0,4090	0,4052	0,4013	0,3974	0,3936	0,3897	0,3859
-0,1	0,4602	0,4562	0,4522	0,4483	0,4443	0,4404	0,4364	0,4325	0,4286	0,4246
-0,0	0,5000	0,4960	0,4920	0,4880	0,4840	0,4801	0,4761	0,4721	0,4681	0,4641
0,0	0,5000	0,5040	0,5080	0,5120	0,5160	0,5199	0,5239	0,5279	0,5319	0,5359
0,1	0,5398	0,5438	0,5478	0,5517	0,5557	0,5596	0,5636	0,5675	0,5714	0,5754
0,2	0,5793	0,5832	0,5871	0,5910	0,5948	0,5987	0,6026	0,6064	0,6103	0,6141
0,3	0,6179	0,6217	0,6255	0,6293	0,6331	0,6368	0,6406	0,6443	0,6480	0,6517
0,4	0,6554	0,6591	0,6628	0,6664	0,6700	0,6736	0,6772	0,6808	0,6844	0,6879
0,5	0,6915	0,6950	0,6985	0,7019	0,7054	0,7088	0,7123	0,7157	0,7190	0,7224
0,6	0,7258	0,7291	0,7324	0,7357	0,7389	0,7422	0,7454	0,7486	0,7518	0,7549
0,7	0,7580	0,7612	0,7642	0,7673	0,7704	0,7734	0,7764	0,7794	0,7823	0,7852
0,8	0,7881	0,7910	0,7939	0,7967	0,7996	0,8023	0,8051	0,8078	0,8106	0,8133
0,9	0,8159	0,8186	0,8212	0,8238	0,8264	0,8289	0,8315	0,8340	0,8365	0,8389
1,0	0,8413	0,8438	0,8461	0,8485	0,8508	0,8531	0,8554	0,8577	0,8599	0,8621
1,1	0,8642	0,8665	0,8686	0,8708	0,8729	0,8749	0,8770	0,8790	0,8810	0,8830
1,2	0,8849	0,8869	0,8888	0,8907	0,8925	0,8944	0,8962	0,8980	0,8997	0,9015
1,3	0,9032	0,9049	0,9066	0,9082	0,9099	0,9115	0,9131	0,9147	0,9162	0,9177
1,4	0,9192	0,9207	0,9222	0,9236	0,9251	0,9265	0,9279	0,9292	0,9306	0,9319
1,5	0,9332	0,9345	0,9357	0,9370	0,9382	0,9394	0,9406	0,9418	0,9429	0,9441
1,6	0,9452	0,9463	0,9474	0,9484	0,9495	0,9505	0,9515	0,9525	0,9535	0,9545
1,7	0,9554	0,9564	0,9573	0,9582	0,9591	0,9599	0,9608	0,9616	0,9625	0,9633
1,8	0,9641	0,9649	0,9656	0,9664	0,9671	0,9678	0,9686	0,9693	0,9699	0,9706
1,9	0,9713	0,9719	0,9726	0,9732	0,9738	0,9744	0,9750	0,9756	0,9761	0,9767
2,0	0,9772	0,9778	0,9783	0,9788	0,9793	0,9798	0,9803	0,9808	0,9812	0,9817
2,1	0,9821	0,9826	0,9830	0,9834	0,9838	0,9842	0,9846	0,9850	0,9854	0,9857
2,2	0,9861	0,9864	0,9868	0,9871	0,9875	0,9878	0,9881	0,9884	0,9887	0,9890
2,3	0,9893	0,9896	0,9898	0,9901	0,9904	0,9906	0,9909	0,9911	0,9913	0,9916
2,4	0,9918	0,9920	0,9922	0,9925	0,9927	0,9929	0,9931	0,9932	0,9934	0,9936
2,5	0,9938	0,9940	0,9941	0,9943	0,9945	0,9946	0,9948	0,9949	0,9951	0,9952
2,6	0,9953	0,9955	0,9956	0,9957	0,9959	0,9960	0,9961	0,9962	0,9963	0,9964
2,7	0,9965	0,9966	0,9967	0,9968	0,9969	0,9970	0,9971	0,9972	0,9973	0,9974
2,8	0,9974	0,9975	0,9976	0,9977	0,9977	0,9978	0,9979	0,9979	0,9980	0,9981
2,9	0,9981	0,9982	0,9982	0,9983	0,9984	0,9984	0,9985	0,9985	0,9986	0,9986
3,0	0,9987	0,9987	0,9987	0,9988	0,9988	0,9989	0,9989	0,9989	0,9990	0,9990
3,1	0,9990	0,9991	0,9991	0,9991	0,9992	0,9992	0,9992	0,9992	0,9993	0,9993
3,2	0,9993	0,9993	0,9994	0,9994	0,9994	0,9994	0,9994	0,9995	0,9995	0,9995
3,3	0,9995	0,9995	0,9995	0,9996	0,9996	0,9996	0,9996	0,9996	0,9996	0,9997
3,4	0,9997	0,9997	0,9997	0,9997	0,9997	0,9997	0,9997	0,9997	0,9997	0,9998

Sumber: Sudjana, (2005), Metoda Statistika, Bandung : Tarsito.p.

APPENDIX 15

THE CRITICAL VALUE LILIEFORS TEST

Ukuran Sampel	Taraf Nyata (α)				
	0,01	0,05	0,10	0,15	0,20
n = 4	0,417	0,381	0,352	0,319	0,300
5	0,405	0,337	0,315	0,299	0,285
6	0,364	0,319	0,294	0,277	0,265
7	0,348	0,300	0,276	0,258	0,247
8	0,331	0,285	0,261	0,244	0,233
9	0,311	0,271	0,249	0,233	0,223
10	0,294	0,258	0,239	0,022	0,215
11	0,284	0,249	0,230	0,217	0,206
12	0,275	0,242	0,223	0,212	0,199
13	0,268	0,234	0,214	0,202	0,190
14	0,261	0,227	0,207	0,194	0,183
15	0,257	0,220	0,201	0,187	0,177
16	0,250	0,213	0,195	0,182	0,173
17	0,245	0,206	0,189	0,177	0,169
18	0,239	0,200	0,184	0,173	0,166
19	0,235	0,195	0,179	0,169	0,163
20	0,231	0,190	0,174	0,166	0,160
25	0,200	0,173	0,158	0,147	0,142
30	0,187	0,161	0,144	0,136	0,131
n > 30	$\frac{1,031}{\sqrt{n}}$	$\frac{0,886}{\sqrt{n}}$	$\frac{0,805}{\sqrt{n}}$	$\frac{0,768}{\sqrt{n}}$	$\frac{0,736}{\sqrt{n}}$

APPENDIX 16

TABLE OF F DISTRIBUTION

(Bilangan Dalam Badan Daftar Menyatakan:

Fp : Baris Atas untuk p = 0,05 dan Baris Bawah untuk p = 0,01)

$v_2 = \text{dk penyebut}$	$v_1 = \text{dk pembilang}$																								
	1	2	3	4	5	6	7	8	9	10	11	12	14	16	20	24	30	40	50	75	100	200	500	∞	
1	161	200	216	225	230	234	237	239	241	242	243	244	245	246	248	249	250	251	252	253	253	254	254	254	
2	4062	4999	5403	5625	5764	5859	5928	5981	6022	6056	6082	6106	6142	6169	6208	6234	6258	6286	6302	6323	6334	6352	6361	6366	
3	18,51	19,00	19,16	19,25	19,30	19,33	19,36	19,37	19,38	19,39	19,40	19,41	19,42	19,43	19,44	19,45	19,46	19,47	19,47	19,48	19,49	19,49	19,50	19,50	
4	98,49	99,01	99,17	99,25	99,30	99,33	99,34	99,36	99,38	99,40	99,41	99,42	99,43	99,44	99,45	99,46	99,47	99,48	99,48	99,49	99,49	99,50	99,50	99,50	
5	10,13	9,55	9,28	9,12	9,01	8,94	8,88	8,84	8,81	8,78	8,76	8,74	8,71	8,69	8,66	8,64	8,62	8,60	8,58	8,57	8,56	8,54	8,54	8,52	
6	34,12	30,81	29,46	28,71	28,24	27,91	27,67	27,49	27,34	27,23	27,13	27,05	26,92	26,83	26,69	26,60	26,50	26,41	26,30	26,27	26,23	26,18	26,14	26,12	
7	7,17	6,94	6,59	6,39	6,26	6,16	6,09	6,04	6,00	5,96	5,93	5,91	5,87	5,84	5,80	5,77	5,74	5,71	5,70	5,68	5,66	5,65	5,64	5,63	
8	21,20	18,00	16,69	15,98	15,52	15,21	14,98	14,80	14,66	14,54	14,45	14,37	14,24	14,15	14,02	13,93	13,83	13,74	13,69	13,61	13,57	13,52	13,48	13,46	
9	6,61	5,79	5,41	5,19	5,05	4,95	4,88	4,82	4,78	4,74	4,70	4,68	4,64	4,60	4,56	4,53	4,50	4,46	4,44	4,42	4,40	4,38	4,37	4,36	
10	16,26	13,27	12,06	11,39	10,97	10,67	10,45	10,27	10,15	10,05	9,96	9,89	9,77	9,66	9,55	9,47	9,38	9,29	9,24	9,17	9,13	9,07	9,04	9,02	
11	5,99	5,14	4,76	4,53	4,39	4,28	4,21	4,15	4,10	4,06	4,03	4,00	3,96	3,92	3,87	3,84	3,81	3,77	3,75	3,72	3,71	3,69	3,68	3,67	
12	13,74	10,92	9,78	9,15	8,75	8,47	8,26	8,10	7,98	7,87	7,79	7,72	7,60	7,52	7,39	7,31	7,23	7,14	7,09	7,02	6,99	6,94	6,90	6,88	
13	5,59	4,74	4,35	4,12	3,97	3,87	3,79	3,73	3,68	3,63	3,60	3,57	3,52	3,49	3,44	3,41	3,38	3,34	3,32	3,29	3,28	3,25	3,24	3,23	
14	12,25	9,55	8,45	7,86	7,46	7,19	7,00	6,84	6,71	6,62	6,54	6,47	6,35	6,27	6,15	6,07	5,98	5,90	5,85	5,78	5,75	5,70	5,67	5,65	
15	5,32	4,46	4,07	3,84	3,69	3,58	3,50	3,44	3,39	3,34	3,31	3,28	3,23	3,20	3,15	3,12	3,08	3,05	3,03	3,00	2,98	2,96	2,94	2,93	
16	11,26	8,65	7,59	7,01	6,63	6,37	6,19	6,03	5,91	5,82	5,74	5,67	5,56	5,48	5,36	5,28	5,20	5,11	5,06	5,00	4,96	4,91	4,88	4,86	
17	5,12	4,26	3,86	3,63	3,48	3,37	3,29	3,23	3,18	3,13	3,10	3,07	3,02	2,98	2,93	2,90	2,86	2,82	2,77	2,76	2,73	2,72	2,71	2,70	
18	10,56	8,02	6,99	6,42	6,06	5,80	5,62	5,47	5,35	5,26	5,18	5,11	5,00	4,92	4,80	4,73	4,64	4,56	4,51	4,45	4,41	4,36	4,33	4,31	
19	4,96	4,80	3,71	3,48	3,33	3,22	3,14	3,07	3,02	2,97	2,94	2,91	2,86	2,82	2,77	2,74	2,70	2,67	2,64	2,61	2,59	2,56	2,55	2,54	
20	10,04	7,56	6,55	5,99	5,64	5,39	5,21	5,06	4,95	4,85	4,78	4,71	4,60	4,52	4,41	4,33	4,25	4,17	4,12	4,05	4,01	3,96	3,93	3,91	
21	4,84	3,98	3,59	3,36	3,20	3,09	3,01	2,95	2,90	2,86	2,82	2,79	2,74	2,70	2,65	2,61	2,57	2,53	2,50	2,47	2,45	2,42	2,41	2,40	
22	9,65	7,20	6,22	5,67	5,32	5,07	4,88	4,74	4,63	4,54	4,46	4,40	4,29	4,21	4,10	4,02	3,94	3,86	3,80	3,74	3,70	3,66	3,62	3,60	
23	4,75	3,88	3,49	3,26	3,11	3,00	2,92	2,85	2,80	2,76	2,72	2,69	2,64	2,60	2,54	2,50	2,46	2,42	2,40	2,36	2,35	2,32	2,31	2,30	
24	9,38	6,93	5,95	5,41	5,06	4,82	4,65	4,50	4,39	4,30	4,22	4,16	4,05	3,98	3,86	3,78	3,70	3,61	3,56	3,49	3,46	3,41	3,38	3,36	
25	4,67	3,80	3,41	3,18	3,02	2,92	2,84	2,77	2,72	2,67	2,63	2,60	2,55	2,51	2,46	2,42	2,38	2,34	2,32	2,28	2,26	2,24	2,22	2,21	
26	9,07	6,70	5,74	5,20	4,86	4,62	4,44	4,30	4,19	4,10	4,02	3,96	3,85	3,78	3,67	3,60	3,51	3,42	3,37	3,30	3,27	3,21	3,18	3,16	
27	4,60	3,74	3,34	3,11	2,96	2,85	2,77	2,70	2,65	2,60	2,56	2,53	2,48	2,44	2,39	2,35	2,31	2,27	2,24	2,21	2,19	2,16	2,14	2,13	
28	8,86	6,51	5,56	5,03	4,89	4,76	4,68	4,62	4,57	4,52	4,47	4,42	4,37	4,32	4,27	4,22	4,17	4,12	4,07	4,02	3,97	3,92	3,87	3,85	
29	4,54	3,68	3,29	3,06	2,90	2,79	2,70	2,64	2,59	2,55	2,51	2,48	2,43	2,39	2,33	2,29	2,25	2,21	2,18	2,15	2,12	2,10	2,06	2,07	
30	8,68	6,36	5,42	4,89	4,56	4,32	4,14	4,00	3,89	3,80	3,73	3,67	3,63	3,58	3,54	3,49	3,45	3,41	3,37	3,33	3,29	3,25	3,21	3,19	
31	4,49	3,63	3,24	3,01	2,85	2,74	2,66	2,59	2,54	2,49	2,45	2,42	2,37	2,33	2,28	2,24	2,20	2,16	2,13	2,09	2,07	2,04	2,02	2,01	
32	8,53	6,23	5,29	4,77	4,44	4,20	4,03	3,89	3,78	3,69	3,61	3,55	3,45	3,37	3,25	3,18	3,10	3,01	2,96	2,89	2,86	2,80	2,77	2,75	
33	4,45	3,59	3,20	2,96	2,81	2,70	2,62	2,55	2,50	2,45	2,41	2,38	2,33	2,29	2,23	2,19	2,15	2,11	2,08	2,04	2,02	1,99	1,97	1,96	
34	8,40	6,11	5,18	4,67	4,34	4,10	3,93	3,79	3,68	3,59	3,52	3,45	3,35	3,27	3,16	3,08	3,00	2,92	2,86	2,79	2,76	2,70	2,67	2,65	
35	4,41	3,55	3,16	2,93	2,77	2,66	2,58	2,51	2,46	2,41	2,37	2,34	2,29	2,25	2,19	2,15	2,11	2,07	2,04	2,00	1,98	1,96	1,93	1,92	
36	8,28	6,01	5,09	4,58	4,25	4,01	3,85	3,71	3,60	3,51	3,44	3,37	3,27	3,19	3,07	3,00	2,91	2,84	2,78	2,71	2,68	2,62	2,59	2,57	
37	4,38	3,52	3,13	2,90	2,74	2,63	2,55	2,48	2,43	2,38	2,34	2,31	2,26	2,21	2,15	2,11	2,07	2,02	2,00	1,96	1,94	1,91	1,90	1,88	
38	8,18	5,93	5,01	4,50	4,17	3,94	3,77	3,63	3,52	3,43	3,36	3,30	3,19	3,12	3,00	2,92	2,84	2,76	2,70	2,63	2,60	2,54	2,51	2,49	
39	4,35	3,49	3,10	2,87	2,71	2,60	2,52	2,45	2,40	2,35	2,31	2,26	2,23	2,18	2,12	2,08	2,04	1,99	1,96	1,92	1,90	1,87	1,85	1,84	
40	8,10	5,85	4,94	4,48	4,15	3,92	3,75	3,61	3,50	3,41	3,34	3,27	3,17	3,10	2,98	2,90	2,82	2,74	2,69	2,63	2,59	2,54	2,51	2,49	
41	4,32	3,47	3,07	2,84	2,68	2,57	2,49	2,42	2,37	2,32	2,28	2,25	2,20	2,15	2,09	2,05	2,00	1,96	1,93	1,89	1,87	1,84	1,82	1,81	
42	8,02	5,78	4,87	4,37	4,04	3,81	3,65	3,51	3,40	3,31	3,24	3,17	3,07	2,99	2,88	2,80	2,72	2,63	2,58	2,51	2,47	2,42	2,38	2,36	
43	4,30	3,44	3,05	2,82	2,66	2,55	2,47	2,40	2,35	2,30	2,26	2,23	2,18	2,13	2,07	2,03	1,98	1,93	1,91	1,87	1,84	1,81	1,80	1,78	
44	7,94	5,72	4,82	4,31	3,99	3,76	3,59	3,45	3,35	3,26	3,18	3,12	3,02	2,94	2,83	2,75	2,67	2,58	2,53	2,46	2,42	2,37	2,33	2,31	
45	4,28	3,42	3,03	2,80	2,64	2,53	2,45	2,38	2,32	2,28	2,24	2,20	2,14	2,10	2,04	2,00	1,96	1,91	1,88	1,84	1,82	1,79	1,77	1,76	
46	7,88	5,66	4,76	4,26	3,94	3,71	3,54	3,41	3,30	3,21	3,14	3,07	2,97	2,89	2,78	2,70	2,62	2,53	2,48	2,41	2,37	2,32	2,28	2,26	
47	4,26	3,40	3,01	2,78	2,62	2,51	2,43	2,36	2,30	2,26	2,22	2,18	2,13	2,09	2,02	1,98	1,94	1,89	1,86	1,82	1,80	1,76	1,74	1,73	
48	7,82	5,61	4,72	4,22	3,90	3,67	3,50	3,36	3,25	3,17	3,09	3,03	2,93	2,85	2										

26	4,22	3,37	2,89	2,74	2,59	2,47	2,39	2,32	2,27	2,22	2,18	2,15	2,10	2,05	1,99	1,95	1,90	1,85	1,82	1,78	1,76	1,72	1,70	1,69
	7,72	5,53	4,64	4,14	3,82	3,59	3,42	3,29	3,17	3,09	3,02	2,96	2,86	2,77	2,66	2,58	2,50	2,41	2,36	2,28	2,25	2,19	2,15	2,13
27	4,21	3,35	2,96	2,73	2,57	2,46	2,37	2,30	2,25	2,20	2,16	2,13	2,08	2,03	1,97	1,93	1,88	1,84	1,80	1,76	1,74	1,71	1,68	1,67
	7,68	5,49	4,60	4,11	3,79	3,56	3,39	3,26	3,14	3,06	2,98	2,93	2,83	2,74	2,63	2,55	2,47	2,38	2,33	2,25	2,21	2,16	2,12	2,10
28	4,20	3,34	2,95	2,71	2,56	2,44	2,36	2,29	2,24	2,19	2,15	2,12	2,06	2,02	1,96	1,91	1,87	1,81	1,78	1,75	1,72	1,69	1,67	1,65
	7,64	5,45	4,57	4,07	3,76	3,53	3,36	3,23	3,11	3,03	2,95	2,90	2,80	2,71	2,60	2,52	2,44	2,35	2,30	2,22	2,18	2,13	2,09	2,06
29	4,18	3,33	2,93	2,70	2,54	2,43	2,35	2,28	2,22	2,18	2,14	2,10	2,05	2,00	1,94	1,90	1,85	1,80	1,77	1,73	1,71	1,68	1,65	1,64
	7,60	5,52	4,54	4,04	3,73	3,50	3,33	3,20	3,08	3,00	2,92	2,87	2,77	2,68	2,57	2,49	2,41	2,32	2,27	2,19	2,15	2,10	2,06	2,03
30	4,17	3,32	2,92	2,69	2,53	2,42	2,34	2,27	2,21	2,16	2,12	2,09	2,04	1,99	1,93	1,89	1,84	1,79	1,76	1,72	1,69	1,66	1,64	1,62
	7,56	5,39	4,51	4,02	3,70	3,47	3,30	3,17	3,06	2,98	2,90	2,84	2,74	2,66	2,55	2,47	2,38	2,29	2,24	2,16	2,13	2,07	2,03	2,01
32	4,15	3,30	29,00	2,67	2,51	2,40	2,32	2,25	2,19	2,14	2,10	2,07	2,02	1,97	1,91	1,86	1,82	1,76	1,74	1,69	1,67	1,64	1,61	1,59
	7,50	5,34	4,46	3,97	3,66	3,42	3,25	3,12	3,01	2,94	2,86	2,80	2,70	2,62	2,51	2,42	2,34	2,25	2,20	2,12	2,08	2,02	1,98	1,96
34	4,13	3,28	2,88	2,65	2,49	2,38	2,30	2,23	2,17	2,12	2,08	2,05	2,00	1,95	1,89	1,84	1,80	1,74	1,71	1,67	1,64	1,61	1,59	1,57
	7,44	5,29	4,42	3,93	3,61	3,38	3,21	3,08	2,97	2,89	2,82	2,76	2,66	2,58	2,47	2,38	2,30	2,21	2,15	2,08	2,04	1,98	1,94	1,91
36	4,11	3,26	2,86	2,63	2,48	2,36	2,28	2,21	2,15	2,10	2,06	2,03	1,89	1,93	1,87	1,82	1,78	1,72	1,69	1,65	1,62	1,59	1,56	1,55
	7,39	5,25	4,38	3,89	3,58	3,35	3,18	3,04	2,94	2,86	2,78	2,72	2,62	2,54	2,43	2,35	2,26	2,17	2,12	2,04	2,00	1,94	1,90	1,87
38	4,10	3,25	2,85	2,62	2,46	2,35	2,26	2,19	2,14	2,09	2,05	2,02	1,96	1,92	1,85	1,80	1,76	1,71	1,67	1,63	1,60	1,57	1,54	1,53
	7,35	5,21	4,34	3,86	3,84	3,32	3,15	3,02	2,91	2,82	2,75	2,69	2,59	2,51	2,40	2,32	2,22	2,14	2,08	2,00	1,97	1,90	1,86	1,84
40	4,08	3,23	2,84	2,61	2,45	2,34	2,25	2,18	2,12	2,07	2,04	2,00	1,95	1,90	1,84	1,79	1,74	1,69	1,66	1,61	1,59	1,55	1,53	1,51
	7,31	5,18	4,31	3,83	3,51	3,29	3,12	2,99	2,88	2,80	2,73	2,66	2,56	2,49	2,37	2,29	2,20	2,11	2,05	1,97	1,94	1,88	1,84	1,81
42	4,07	3,22	2,83	2,59	2,44	2,32	2,24	2,17	2,11	2,06	2,02	1,99	1,94	1,89	1,82	1,78	1,73	1,68	1,64	1,60	1,57	1,54	1,51	1,49
	7,27	5,15	4,29	3,80	3,49	3,26	3,10	2,96	2,86	2,77	2,70	2,64	2,54	2,46	2,35	2,26	2,17	2,08	2,02	1,94	1,91	1,85	1,80	1,78
44	4,06	3,21	2,82	2,58	2,43	2,31	2,23	2,16	2,10	2,05	2,01	1,98	1,92	1,88	1,81	1,76	1,71	1,66	1,63	1,58	1,56	1,52	1,50	1,48
	7,24	5,12	4,26	3,78	3,46	3,24	3,07	2,94	2,84	2,75	2,68	2,62	2,52	2,44	2,32	2,24	2,17	2,06	2,00	1,92	1,88	1,82	1,78	1,75
46	4,05	3,20	2,81	2,57	2,42	2,30	2,22	2,14	2,09	2,04	2,00	1,97	1,91	1,87	1,80	1,75	1,71	1,65	1,62	1,57	1,54	1,51	1,48	1,46
	7,21	5,10	4,24	3,76	3,44	3,22	3,05	2,92	2,82	2,73	2,66	2,60	2,50	2,42	2,32	2,22	2,17	2,04	1,98	1,90	1,86	1,80	1,76	1,72
48	4,04	3,19	2,80	2,56	2,41	2,30	2,21	2,14	2,08	2,03	1,99	1,96	1,90	1,86	1,79	1,74	1,71	1,64	1,61	1,56	1,53	1,50	1,47	1,45
	7,19	5,08	4,22	3,74	3,42	3,20	3,04	2,90	2,80	2,71	2,64	2,58	2,48	2,40	2,28	2,20	1,70	2,02	1,96	1,88	1,84	1,78	1,73	1,70
50	4,03	3,18	2,79	2,56	2,40	2,29	2,20	2,13	2,07	2,02	1,98	1,95	1,90	1,85	1,78	1,74	1,69	1,63	1,60	1,55	1,52	1,48	1,46	1,44
	7,17	5,06	4,20	3,72	3,44	3,18	3,02	2,88	2,78	2,70	2,62	2,56	2,46	2,39	2,26	2,18	2,10	2,00	1,94	1,86	1,82	1,76	1,71	1,68
55	4,02	3,17	2,78	2,54	2,38	2,27	2,18	2,11	2,05	2,00	1,97	1,93	1,88	1,83	1,76	1,72	1,67	1,61	1,58	1,52	1,50	1,46	1,43	1,41
	7,12	5,01	4,16	3,65	3,37	3,15	2,98	2,85	2,75	2,66	2,59	2,53	2,43	2,35	2,23	2,15	2,00	1,96	1,90	1,82	1,78	1,71	1,66	1,64
60	4,00	3,15	2,76	2,52	2,37	2,25	2,17	2,10	2,04	1,99	1,95	1,92	1,86	1,81	1,75	1,70	1,65	1,59	1,56	1,50	1,48	1,44	1,41	1,39
	7,08	4,98	4,13	3,65	3,34	3,12	2,95	2,82	2,72	2,63	2,56	2,50	2,40	2,32	2,20	2,12	2,03	1,93	1,87	1,79	1,74	1,68	1,63	1,60
65	3,99	3,14	2,75	2,51	2,36	2,21	2,15	2,08	2,02	1,98	1,94	1,90	1,85	1,80	1,73	1,68	1,63	1,57	1,54	1,49	1,46	1,42	1,39	1,37
	7,01	4,95	4,10	3,62	3,31	3,09	2,93	2,79	2,70	2,61	2,54	2,47	2,37	2,30	2,18	2,09	2,00	1,90	1,84	1,76	1,71	1,64	1,60	1,56
70	3,98	3,13	2,74	2,50	2,35	2,32	2,14	2,07	2,01	1,97	1,93	1,89	1,84	1,79	1,72	1,67	1,62	1,56	1,53	1,47	1,45	1,40	1,37	1,35
	7,01	4,92	4,08	3,60	3,29	3,07	2,91	2,77	2,67	2,59	2,51	2,45	2,35	2,28	2,15	2,07	1,98	1,88	1,82	1,74	1,69	1,63	1,56	1,53
80	3,96	3,11	2,72	2,48	2,33	2,21	2,12	2,05	1,99	1,95	1,91	1,88	1,82	1,77	1,70	1,65	1,60	1,54	1,51	1,45	1,42	1,38	1,35	1,32
	6,96	4,88	4,01	3,58	3,25	3,04	2,87	2,74	2,64	2,55	2,48	2,44	2,32	2,24	2,11	2,03	1,94	1,84	1,78	1,70	1,65	1,57	1,52	1,49
100	3,94	3,09	2,70	2,46	2,30	2,19	2,10	2,03	1,97	1,92	1,88	1,85	1,79	1,75	1,68	1,63	1,57	1,51	1,48	1,42	1,39	1,34	1,30	1,28
	6,90	4,82	3,98	3,51	3,20	2,99	2,82	2,69	2,59	2,51	2,43	2,36	2,26	2,19	2,06	1,98	1,89	1,79	1,73	1,64	1,59	1,51	1,46	1,43
125	3,92	3,07	2,68	2,44	2,29	2,17	2,08	2,01	1,95	1,90	1,86	1,83	1,77	1,72	1,65	1,60	1,55	1,49	1,45	1,39	1,36	1,31	1,27	1,25
	6,84	4,78	3,94	3,47	3,17	2,95	2,79	2,65	2,56	2,47	2,40	2,33	2,23	2,15	2,03	1,94	1,85	1,75	1,68	1,59	1,54	1,46	1,40	1,37
150	3,91	3,06	2,67	2,43	2,27	2,16	2,07	2,00	1,94	1,89	1,85	1,82	1,76	1,71	1,64	1,59	1,54	1,47	1,44	1,37	1,34	1,29	1,25	1,22
	6,81	4,75	3,91	3,44	3,13	2,92	2,76	2,62	2,53	2,44	2,37	2,30	2,20	2,12	2,00	1,91	1,82	1,72	1,66	1,56	1,51	1,43	1,37	1,33
200	3,89	3,01	2,65	2,41	2,26	2,14	2,05	1,98	1,92	1,87	1,83	1,80	1,74	1,69	1,62	1,57	1,52	1,45	1,42	1,35	1,32	1,26	1,22	1,19
	6,76	4,71	3,88	3,41	3,11	2,90	2,73	2,60	2,50	2,41	2,34	2,28	2,17	2,09	1,97	1,88	1,79	1,69	1,62	1,53	1,48	1,39	1,33	1,28
400	3,86	3,02	2,62	2,39	2,23	2,12	2,03	1,96	1,90	1,85	1,81	1,78	1,72	1,67	1,60	1,54	1,49	1,42	1,38	1,32	1,28	1,22	1,16	1,13
	6,70	4,66	3,83	3,36	3,06	2,85	2,69	2,55	2,46	2,37	2,29	2,23	2,12	2,04	1,92	1,84	1,74	1,64	1,57	1,47	1,42	1,32	1,24	1,19
1000	3,85	3,00	2,61	2,38	2,22	2,10	2,02	1,95	1,89	1,81	1,80	1,76	1,70	1,65	1,58	1,53	1,47	1,41	1,36	1,30	1,26	1,19	1,13	1,08
	6,68	4,62	3,80	3,34	3,04	2,82	2,66	2,53	2,43	2,34	2,26	2,20	2,09	2,01	1,89	1,81	1,71	1,61	1,54	1,44	1,38	1,28	1,19	1,11
∞	3,84	2,99	2,60	2,37	2,21	2,09	2,01	1,94	1,88	1,83	1,79	1,75	1,69	1,64	1,57	1,52	1,46	1,40	1,35	1,28	1,24	1,17	1,11	1,00
	6,64	4,60	3,78	3,32	3,02	2,80	2,64	2,51	2,41	2,32	2,24	2,18	2,07	1,99	1,87	1,79	1,69	1,59	1,52	1,41	1,36	1,25	1,12	1,00

Source: Sudjana. *Metoda Statistika*. Bandung: Tarsito, 2002

APPENDIX 17

PERCENTAGE POINTS OF T DISTRIBUTION

DF	A P	0.80 0.20	0.90 0.10	0.95 0.05	0.98 0.02	0.99 0.01	0.995 0.005	0.998 0.002	0.999 0.001
1		3.078	6.314	12.706	31.820	63.657	127.321	318.309	636.619
2		1.886	2.920	4.303	6.965	9.925	14.089	22.327	31.599
3		1.638	2.353	3.182	4.541	5.841	7.453	10.215	12.924
4		1.533	2.132	2.776	3.747	4.604	5.598	7.173	8.610
5		1.476	2.015	2.571	3.365	4.032	4.773	5.893	6.869
6		1.440	1.943	2.447	3.143	3.707	4.317	5.208	5.959
7		1.415	1.895	2.365	2.998	3.499	4.029	4.785	5.408
8		1.397	1.860	2.306	2.897	3.355	3.833	4.501	5.041
9		1.383	1.833	2.262	2.821	3.250	3.690	4.297	4.781
10		1.372	1.812	2.228	2.764	3.169	3.581	4.144	4.587
11		1.363	1.796	2.201	2.718	3.106	3.497	4.025	4.437
12		1.356	1.782	2.179	2.681	3.055	3.428	3.930	4.318
13		1.350	1.771	2.160	2.650	3.012	3.372	3.852	4.221
14		1.345	1.761	2.145	2.625	2.977	3.326	3.787	4.140
15		1.341	1.753	2.131	2.602	2.947	3.286	3.733	4.073
16		1.337	1.746	2.120	2.584	2.921	3.252	3.686	4.015
17		1.333	1.740	2.110	2.567	2.898	3.222	3.646	3.965
18		1.330	1.734	2.101	2.552	2.878	3.197	3.610	3.922
19		1.328	1.729	2.093	2.539	2.861	3.174	3.579	3.883
20		1.325	1.725	2.086	2.528	2.845	3.153	3.552	3.850
21		1.323	1.721	2.080	2.518	2.831	3.135	3.527	3.819
22		1.321	1.717	2.074	2.508	2.819	3.119	3.505	3.792
23		1.319	1.714	2.069	2.500	2.807	3.104	3.485	3.768
24		1.318	1.711	2.064	2.492	2.797	3.090	3.467	3.745
25		1.316	1.708	2.060	2.485	2.787	3.078	3.450	3.725
26		1.315	1.706	2.056	2.479	2.779	3.067	3.435	3.707
27		1.314	1.703	2.052	2.473	2.771	3.057	3.421	3.690
28		1.313	1.701	2.048	2.467	2.763	3.047	3.408	3.674
29		1.311	1.699	2.045	2.462	2.756	3.038	3.396	3.659
30		1.310	1.697	2.042	2.457	2.750	3.030	3.385	3.646

31			1.309	1.695	2.040	2.453	2.744	3.022	3.375	3.633
32			1.309	1.694	2.037	2.449	2.738	3.015	3.365	3.622
33			1.308	1.692	2.035	2.445	2.733	3.008	3.356	3.611
34			1.307	1.691	2.032	2.441	2.728	3.002	3.348	3.601
35			1.306	1.690	2.030	2.438	2.724	2.996	3.340	3.591
36			1.306	1.688	2.028	2.434	2.719	2.991	3.333	3.582
37			1.305	1.687	2.026	2.431	2.715	2.985	3.326	3.574
38			1.304	1.686	2.024	2.429	2.712	2.980	3.319	3.566
39			1.304	1.685	2.023	2.426	2.708	2.976	3.313	3.558
40			1.303	1.684	2.021	2.423	2.704	2.971	3.307	3.551
42			1.302	1.682	2.018	2.418	2.698	2.963	3.296	3.538
44			1.301	1.680	2.015	2.414	2.692	2.956	3.286	3.526
46			1.300	1.679	2.013	2.410	2.687	2.949	3.277	3.515
48			1.299	1.677	2.011	2.407	2.682	2.943	3.269	3.505
50			1.299	1.676	2.009	2.403	2.678	2.937	3.261	3.496
60			1.296	1.671	2.000	2.390	2.660	2.915	3.232	3.460
70			1.294	1.667	1.994	2.381	2.648	2.899	3.211	3.435
80			1.292	1.664	1.990	2.374	2.639	2.887	3.195	3.416
90			1.291	1.662	1.987	2.369	2.632	2.878	3.183	3.402
100			1.290	1.660	1.984	2.364	2.626	2.871	3.174	3.391
120			1.289	1.658	1.980	2.358	2.617	2.860	3.160	3.373
150			1.287	1.655	1.976	2.351	2.609	2.849	3.145	3.357
200			1.286	1.652	1.972	2.345	2.601	2.839	3.131	3.340
300			1.284	1.650	1.968	2.339	2.592	2.828	3.118	3.323
500			1.283	1.648	1.965	2.334	2.586	2.820	3.107	3.310
∞			1.282	1.645	1.960	2.326	2.576	2.807	3.090	3.291

APPENDIX 18

Documentations



Pic.1. Students' Pre-Test in experimental class



Pic.2. Students play Stirred Words and Sentences Game



Pic.3. Students' post-test in experimental class



Pic.4. Students' pre-test in control class



Pic.5 & 6. the researcher teaches the students in control class



Pic.7. Students' post-test in control class



Pic.8. The researcher with teacher and students



KEMENTERIAN AGAMA REPUBLIK INDONESIA
UNIVERSITAS ISLAM NEGERI SUMATERA UTARA MEDAN
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Lampiran : -
Hal : Izin Riset

Medan, 20 Agustus 2018

.Yth. Ka. MAS PAB 2 Helvetia

Assalamu'alaikum Wr Wb

Dengan Hormat, diberitahukan bahwa untuk mencapai gelar Sarjana Strata Satu (S1) bagi Mahasiswa Fakultas Ilmu Tarbiyah dan Keguruan UIN Sumatera Utara Medan adalah menyusun Skripsi (Karya Ilmiah), kami tugaskan mahasiswa:

Nama : NURAIDA AFNI
Tempat/Tanggal Lahir : Medan, 17 Januari 1996
NIM : 34141013
Semester/Jurusan : VIII/Pendidikan Bahasa Inggris

Untuk hal dimaksud kami mohon memberikan Izin dan bantuannya terhadap pelaksanaan Riset di MAS PAB 2 Helvetia, guna memperoleh informasi/keterangan dan data-data yang berhubungan dengan Skripsi yang berjudul:

THE EFFECT OF STIRRED WORDS AND SENTENCES GAME ON THE STUDENTS' VOCABULARY MASTERY.

Demikian kami sampaikan, atas bantuan dan kerjasamanya diucapkan terima kasih.

Wassalam

A.n Dekan

Jurusan PBI



Dr. Saiful Hamidah Dty, M.Hum

0756622 200312 2 002

Tembusan:

Dekan Fakultas Ilmu Tarbiyah dan Keguruan UIN Sumatera Utara Medan



PERKUMPULAN AMAL BAKTI
MADRASAH ALIYAH SWASTA PAB.2 HELVETIA
MAS PAB - 2 HELVETIA

NPSN : 10264726
N.S.M : 131212070006
STATUS : AKREDITASI A

NOMOR : 642/BAP-SM/PROVSU/LL/X/2015
TGL. : 16 OKTOBER 2015

Alamat : Jl. Veteran Pasar IV Helvetia Kec. Labuhan Deli Kab. Deli Serdang - 20373 Telp. 061 - 42084458

SURAT KETERANGAN

Nomor : Al-2/B. 1231/PAB/IX/2018

Saya yang bertanda tangan dibawah ini Kepala Madrasah Aliyah PAB - 2 Helvetia Kecamatan Labuhan Deli Kabupaten Deli Serdang dengan ini menerangkan bahwa :

a. *N a m a* : **NURAIDA AFNI**
b. *NIM* : **34141013**
c. *T.Tgl.Lahir* : **Medan, 17 Januari 1996**
d. *Sem/Jurusan* : **VIII/Pendidikan Bahasa Inggris**

Adalah benar nama tersebut telah melaksanakan riset di Madrasah Aliyah PAB - 2 Helvetia sejak tanggal 23 Agustus - 20 September 2018 guna mendapatkan data-data dan informasi yang berhubungan dengan skripsi yang berjudul :

" THE EFFECT OF STIRRED WORDS AND SENTENCES GAME ON THE STUDENTS' VOCABULARY MASTERY ".

Demikian Surat Keterangan ini diberikan agar dapat dipergunakan dengan seperlunya.

Helvetia, 20 September 2018

Kepala



Drs. H. M. Fauzi, MA

cc. Arsip